EFFECTIVENESS OF PLANNED INSTRUCTIONAL MODULE REGARDING KNOWLEDGE ABOUT HEALTH HAZARDS OF JUNK FOODS AMONG SCHOOL CHILDREN IN SELECTED SCHOOL AT VELLORE

BY

C.SHIRELY

A Dissertation submitted to

THE TAMILNADU DR.M.G.R MEDICAL UNIVERSITY, CHENNAI.

In Partial Fulfilment of the Requirement for the Degree of

MASTER OF SCIENCE IN NURSING

OCTOBER - 2014

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_____ _____

Internal Examiner External Examiner

DECLARATION

I hereby declare that the present dissertation entitled **"Effectiveness of planned instructional module regarding knowledge about health hazards of junk foods among school children"** is the outcome of the original research work undertaken and carried out by me, under the guidance of **Mrs.J.Sunithapriyadharsini, M.Sc(N), M.Sc (Psy)** Principal and Research Guide, Arun College of Nursing and **Mrs.Christy Sahaya Mary, M.Sc (N)** Associate Professor, Pediatric Nursing, Arun college of Nursing, Vellore.

I also declare that the material of this has not found in any way, the basis for the award of any degree or diploma in this university or any other universities.

C.SHIRELY
M.Sc(N)IIYear

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ABSTRACT

The children of today will be the adult of tomorrow, central to this vision of the future, focusing on today's children and educating them to change their behavior towards healthy eating pattern is necessary. Nutritional problem is one of the major health problem faced by the millions children of all age group .Preventive approach to maintain good health with specific education can be of greater benefit for the children to prevent mental and physical ailments.

STATEMENT OF THE PROBLEM

A study to assess the effectiveness of planned instructional module regarding knowledge about health hazards of junk foods among school children in selected school at Vellore.

AIM OF THE STUDY

To create awareness among school children regarding health hazards of junk foods.

OBJECTIVES OF THE STUDY

- To assess the level of knowledge on health hazards of junk foods among school children before the planned instructional module [pretest].
- To assess the level of knowledge on health hazards of junk foods among school children after planned instructional module [post test].
- To determine the effectiveness of planned instructional module among school children.
- To find the association between selected demographic variables and the level of knowledge among school children.

The conceptual framework is based on modified model of **Daniel . L.Stuffle Beam's** evaluation model of planned program .The study was conducted in freedom concept higher secondary school at poigai in Vellore district. About 100 students were selected for the study by lottery method. The instruments used for data collection are demographic variable and structured questionnaire method to assess the knowledge regarding health hazards of junk foods. After 7 days post test was done for the same children with structured questionnaire method.

The collected data was analyzed by using descriptive (mean, standard deviation, percentage) and inferential statistics (chi square, paired t value) methods**.**

MAJOR FINDINGS OF THE STUDY

Demographic variables showed that 57(57%) of majority of children participated in the study were female. Most of the school children are from urban area 55 (55%). More than half 55(55%) of school childrens father were graduates and 39 (39%) of the mothers were educated .More than 55(55%)of school children's father were salaried and also Majority of 72(72%) of mothers were salaried.

On the whole, nearly 59(59%) had family income of above Rs.15000 per month. More than 63(63%) of children were living in nuclear family,half of the children 58(58%)had more than two siblings.Nearly 44(44%) of children were getting pocket money below Rs.50/- per month.

Majority of 79(79%)of children were consuming junk foods for about 1-3 times per day and 41(41%) were eating only for time pass.

More than half of the children 55(55%)were consuming Junk foods from shops when compared to that of home and school canteen. Majority of 93(93%) of children had previous information about

junkfood .On the whole 56% were getting information about health hazards of Junk Food through their family members and least of 4(4%) were received information through health personnel.

Chi square test was used to find out the association between selected demographic variables and post test level of knowledge.The results shows that there was no significant association between the selected demographic variables and the post test knowledge on health hazards of junk foods among school children at $p>0.05$. Except fathers education, which shows that there is significant association in fathers education and level of knowledge at $p < 0.05$.

Before planned instructional module, out of 100 school children, 89(89%) had in adequate knowledge, 11(11%) had moderate knowledge and none of them had adequate knowledge. But after the planned instructional module regarding knowledge about health hazards of junk foods, none of them had inadequate knowledge, 17(17%) of children had moderate knowledge and 83(83%) of them had adequate knowledge. The t value when compared to pretest and post test is 35.24, which is highly significant when $p<0.05$.

So,it has been concluded that the planned instructional module regarding knowledge about health hazards of junkfoods was effective and showed improvement in the knowledge level of school children about health hazards of junk foods.

RECOMMENDATIONS

The similar study can be conducted on a larger sample.

- Comparative study can be done between rural and urban settings.
- A study can be conducted to find out the knowledge and attitude of parents and teachers towards junk foods.

- A true experimental study can be done to assess the knowledge regarding health hazards of junkfoods.
- The effectiveness can be assessed by various methods of teaching like interactive video and audio programmed instruction about health hazards of junk foods in implementing the knowledge and attitude among school children.

LIST OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF ANNEXURES

CHAPTER-I
INTRODUCTION

"We may not able to prepare the future of our children, but we can At least prepare our children for the future."

- Franklin D.Roosevelt

Background of the study

It's the 21st century and "junk food" has gone global. For worse junk food is now available all over the world. We see it all most everywhere we go in groceryshop and also in convenience stores.

Children find themselves amidst of a complex society that is under going breathtaking changes. Concepts, relationships, lifestyles are metamorphasised to accommodate the new jet-setting age. Food is of no exception, Healthy nutritious foods have been replaced by the new food mantra - JUNK FOOD! Junk food comprises of anything that is quick, tasty, convenient and fashionable. It seems to have engulfed every age ,every race and the newest entrants in children.

The director of the Centre for Science, Michael Jacobson (1972) invented the term junk food called "Empty calories". He was accredited as the "chief of the food police" by the food industry, for uncovering the harmful effects of junk food with its use of additives such as vibrant food colors, Salt and Transfat.

His intent was to boost awareness among people, regarding ***Junk food*** that contains low nutritional value , high calories,high sugar and highfat which often lead to many life-threatening ailments.

Any food that has poor nutritional value is considered unhealthy and may be called a junk food. A food that is high in fat- especially Trans fat, sodium and sugar is known as a **junk food**.

Junk food is an empty calorie food. These foods have little enzyme producing vitamins, minerals, amino acids and contain high level of calories from sugar or fat. So these are called as unhealthy foods.

Foods commonly considered junk foods include salted snack foods, gum, candy, sweet desserts, friedfast food, and sugary carbonated beverages, Soft drinks, chips, wafers, noodles, pizza, burgers, French fries etc. are few examples from the vast variety of fast food available in the market.

For years, junk food has been taking the world by storm, with their attractive colors, tickling the taste buds, irrestible to the young and old, with their wonderful array of varieties and flavor. But, experts blame junk food for rising rates of diabetes, high blood pressure and stroke. Increasing rates of chronic illness affect children who regularly consume junk food.

S.Patnaik(2010)conducted study about the Prevalence of Overweight And Obesity in a Private School Of Orissa, India**.** The present study was a cross sectional study conducted in an affluent English Medium School of Bhuvaneswar during Jan - Feb. 2011. The data was collected from students of Class 1 to 10. One section from each class is randomly selected and all the students present during the survey were screened for overweight and obesity. In this way, data was collected from 468 children. Complete data of each child were collected using a pre-designed, pre-test questionnaire.

Result stated that out of total 468 school children, 41.9% were boys and 58.1% were girls. 44.4% children belong to 5-10 years age group while the 55.6% children belong to 10-15 years age group. The overall prevalence of overweight and obesity in school children of 5-15 years was found to be 28.63% (overweight – 14.1% and obesity –

14.53%). Maximum prevalence 36.54% was found in children of 5-10 years age group and 33.65% in boys. Overweight and Obesity was found significantly higher in Children of 5-10 years age group, with family history of obesity, not playing outdoor games, not doing regular exercise, watching TV and Computer more than 2 hours daily and consuming junk food regularly.

Junk food is easy to carry, purchase and consume It has little enzyme producing vitamins &, minerals and contains high level of calories. When we eat these empty calorie foods, the body is required to produce its own enzymes to convert these empty calories into usable energy. It is not desired as these enzyme producing functions in our body should be reserved for the performance of vital metabolic reactions.

Kids Health Club magazine(2012) states that junk food can affect a child's physical development in different ways, including unhealthy weight gain, which can result in self-esteem problems. Low self-esteem can lead to consequences like depression. Nutritionists at MayoClinic.com also report eating junk food can potentially cause depression on its own.

Generally, a junk food is given a very attractive appearance by adding food additives and colours to enhance flavour, texture, appearance, and increasing long shelflife. Junk food can be appealing for a variety of reasons, including convenience, price and taste. For children, who do not always understand the health consequences of their eating habits, junk food may appear especially appetizing. However, regularly consuming fattening junk food can be addictive for children and lead to complications like obesity, chronic illness, low self-esteem and even depression, as well as affecting how they perform in school and extracurricular activities.

.Children set the foundation for lifelong habits in their youth, making junk food particularly hazardous to their well-rounded development. Physical activity is also essential for children of all ages, and regular intake of junk food does not provide the necessary nutrients to children need for sufficient energy to engage in physical activity. A lack of physical activity is harmful to physical and mental well being and may also exclude a child from critical social network.

Also the ease of manufacturing and consumption makes the junk food market spread its influence so rapidly. People, of all age groups are moving towards junk food as it is hassle free and often ready to grab and eat.

National Diet and Nutrition Survey(2000)found that70 per cent of primary school children regularly drink fizzy drinks, on a average getting throught 30 glasses a week. And 92 per cent of 4 to 18-year-old ate more than the recommended adult levels of saturated fat. Children are eating more junk food than ever, the equivalent of eight chocolate bars a day.

Nutrition experts have researched the bad affects of junk food had come to the conclusion that junk food manufacturing companies are fooling the people by showing deceptive advertisements in market that junk foods are healthy.

Ramachandran et al (2002) conducted a study among school children in different parts of the country and showed increasing prevalence of overweight and obesity, with great disparity between rural and urban parts of country. The prevalence of overweight (including obese) in adolescents was 22% in better off schools Overweight and Obesity was found significantly higher in Children within 5-10 years age group, with family H/O obesity (P, not playing outdoor games, not doing regular exercise, watching TV and Computer more than 2 hours

daily, and consuming junk food regularly which has high level of salt, sugar and calories.

Traditional food skills were not passed on automatically from parent to child. Most people have forgotten that the primary reason for eating is nourishment. In the past, food was treated with reverence because of its life sustaining quality. Enjoying a meal was considered as sharing experience with the others.

For children who have less vision of the heart disease, cancer, high blood pressure or diabetes that might befall them decades later, the tentacles of a junk food environment are virtually inescapable. Studies reveal that as early as the age of 30, arteries could begin to clogg and lay the groundwork for future heart attacks.Unhealthy food in puberty period increase the risk of prostate and breast cancer.

Osteoporosis and hypertension are other diseases that appear to have their earliest roots in childhood when lifelong eating habits are being formed. Children are especially vulnerable, Poor diets can slow their growth and development , decay new teeth, promote obesity and sow the seeds of infirmity and debilitating disease that ultimately lead to incurable diseases, death or worse that make life insufferable.

Dr.Drew Ramsey [2013] conducted a new study in Oxford University U.K, revealed that processed junk food consumption can lead to aggression, irritability, and even violent tendencies, in children. Nutrient deficiency is a major cause of behavioral abnormalities, without the proper nutrients the body cannot produce the appropriate chemicals and hormones required for clear thinking and healthy mood, which in turn can lead to irrational and even dangerous behaviors.

Today family dinners are very rare. In many ways, our culture is structured to foster poor eating habits. Television commercials and

supermarkets are propagating a wide variety of enticing junk foods, attractively packed and often tagged with a tempting advertisement. we have a highly seductive environment that undermines eating habits in children but we should have constructing environment to protect our childrens future.

Children health depends on what they eat . Foods are the building blocks of every cell in the body. Our body cells, the building blocks of our body, are responsible for the proper functioning of the whole body. Without adequate nutrition, we cannot expect our children to be healthy.

Several studies have now found that dietary patterns in early childhood affect IQ scores later in their life. In one study, greater consumption of fruits and vegetables upon introducing solid foods was associated with higher IQ and better memory skills when at 4 years of age. Similarly in another study, children who regularly ate cookies, chocolate, other sweets, soda, and chips during the first two years of life showed decreased IQ at age 8 compared to children who did not eat these foods.

Most of the times these junk foods contain added colours often edible, carcinogenic and harmful to the body. These foods and their colours can affect the digestive system in later years.

Studies have found that food colouring can cause hyperactivity and lapse concentration in children. Children suffering from Learning Disabilities are often advised against eating food with artificial colouring. Chocolates, colas, flavoured drinks and snacks are full of artificial colouring.

As parents are strongly committed in supporting children's academic achievement.They want the best for their children, and take an active interest in their schooling they do everything to make sure that

they will be well educated and able to compete as working adults in the technological world.

However, how many parents think about the impact of the foods they give their children on their academic performance. It is not only parents but healthcare workers, teachers, and mass media to create awareness about junk foods and its ill consequences to children to promote healthy living in them.

NEED FOR THE STUDY

Food habits and patterns are formed during childhood and will remain till the end of individual's life. Proper nutrition in this age causes child growth and development and also reduces the risk of chronic diseases in adulthood.

School-age children often face health related nutritional problems, when they enter the school environment there will be changes in their habits, lifestyle and particularly in their food habits. Moreover, the growth rate and health are closely interrelated with quality and quantity of foods and the information related to health status and nutrition status of this group is an important health issue in terms of prevalence of underweight and overweight.

In many cases, adulthood obesity starts from childhood and effective prevention depends upon the way you cope with and control obesity in this age. Prevalence of obesity in 6 to 10-year old children estimated 10 to 30 percent and is considered as one of the basic issues in this age group.

Nowadays, consumption of junk foods as snacks is increasing especially among primary school students. Change of food consumption pattern during few recent decades caused replacement of valueless foods with nutritious snacks. Increasing trend of urban life, extensive TV

advertising, attractive packaging and lack of nutritional knowledge and awareness by parents are the major causes of junk food consumption.

Food Commission (2003) reported that children see more than 5,000 television commercials for junk food every year .food advertising accounted for half of all advertisements hired during children's programmers, with three-quarters promoting high-calorie, low-nutrient foods. And manufacturers have plenty of money to spend. The food industry's global advertising budget is $40 billion, more than the gross domestic product of 70 per cent of the world's nations and 500 times more than the World Health Organization is able to spend on preventing the diseases that junk food causes.

The excessive consumption of junk foods may result in reduction of appetite and takes away the opportunity of nutrition in foods . These junk foods contain high amounts of fats, salt and sugar, they are the underlying cause of chronic diseases including obesity, diabetes, cancer and so on in further years of life. High salt consumption during childhood is associated with hypertension in adulthood. On the other hand, other high-calorie foods provide the background of obesity for children that by itself are the causes of underlying diseases such as cardiovascular diseases, diabetes and hypertension.

In a modern urban family, both the parents are usually working, which gives them little time to pay the required amount of attention to their children. This is one of the biggest reasons for the shift in the eating habits of kids. Junk food has become the fastest way for parents as well as children to satisfy their bon-appetite. However, what remains unnoticed, are the ill consequences of the same.

A prospective observational analysis on relationship between consumption of sugar sweetened drinks and childhood obesity showed that 30 of the children aged 10 to 16 years are overweight or in the risk

of overweight. The study focuses on the trends of childhood nutrition over the past few years such as changes in fast food and soft drink consumption . In this way the study explains the increasing prevalence of overweight in children and critically address the issues contributing to these changes in nutritional intake.

School days are full of educational challenges that require long attention span and stamina. Poor nutritional habits can undermine these pre-requisites of learning, as well as snap the strength that children need for making friends, interacting with family, participating in sports and games or simply feeling good about themselves.

Not surprisingly, junk food not only has physiological repercussions, but also psychological ones - far reaching ones that affect the child's intellect and personalities. Coping intelligently with their dietary needs increases their self-esteem, and encourages further discovery. .

World health organization(2009)stated that top five global threats to health, are overweight, heart disease, diabetes, cancer and high blood pressure caused due to faulty eating habits and life style during childhood period. One quarter of 60 million deaths estimated to occur annually due to these threats.

Nutrition during this formative period has a meaningful long-term effect, providing building blocks to construct the growing brain.The brain is highly susceptible to oxidative stress, so a healthful, antioxidant-rich diet is especially beneficial for the brain and is likely involved in this link between natural plant foods and higher IQ scores.

The rising accommodation of ‘junk food,’ in daily meal is heavily contributing in making the human body a junkyard, as they carry infinite nutritional value. This has become a cause of worry, as children in their

formative years should be given highly nutritious food to make the foundation of their life stronger. On the contrary, the growing consumption of fast foods has resulted in making the children fall prey to hazardous disease conditions like Diabetes, Obesity, high cholesterol level and various nutritional deficiencies.

Nutritional intake during school age is important for growth and development, long term health promotion for lifelong eating habits. Nutritional intake during this period will have long term implications. Several physical, psychological and behavioural changes may affect food habits during school age and have long term consequences on Childrens health status.

The present scenario shows that many of the adult diseases have their origin in their childhood, this is due to lack of proper knowledge and awareness about the consequences of changes in their food habits.

The investigator felt that children do not have adequate knowledge about the health hazards of junk foods in school. Children are more vulnerable to become addicted to junk foods without knowing the ill effects. So, the investigator decided to create awareness among the school children about the health hazards of junk foods and to promote healthy eating habits in children, for their healthy future and disease free life.

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STATEMENT OF THE PROBLEM:

A study to assess the Effectiveness of planned instructional module regarding knowledge about health hazards of junk foods among school children in selected school at vellore.

AIM OF THE STUDY

To create awareness among school children regarding health hazards of junk foods.

OBJECTIVES

- To assess the level of knowledge on health hazards of junk foods among school children before the planned instructional module [pretest].
- To assess the effectiveness of health hazards of junk foods among school children after planned instructional module [post test].
- To determine the effectiveness of planned instructional module among school children.
- To find the association between selected demographic variables and the level of knowledge among school children.

HYPOTHESIS

Null hypothesis:

1) There will be no significant difference between the pretest and posttest level of knowledge on health hazards of junk foods among school children.

2) There will be no significant association between the demographic variable and their level of knowledge on planned instructional module regarding knowledge about health hazards of junk foods.

OPERATIONAL DEFINITIONS

Effectiveness

It is the outcome of planned instructional module regarding knowledge on health hazards of junkfood.

Knowledge

It is the awareness or understanding about the health hazards of junkfoods.

Planned instructional module:

It refers to systematically prepared instructional teaching module to improve the knowledge on health hazards of junk foods among the school children with audio visual aids like power point presentation, poster and pamphlets.

Health hazards on children:

A material or substance that poses a significant threat or danger to the health of the children.

Junk food

It refers to the food that is high in salt, sugar or calorie and low in nutritive value which directly or indirectly poses health hazards. Common Junk foods are soft drinks, candy, deep-fried and salted items.

School children:

Children who are studying in the selected school within the age group of 8 to 12 years.

ASSUMPTIONS

- School children are the vulnerable group exposed to the hazards effects of junk food.
- School children have some knowledge regarding health hazards of junk food.
- Planned instructional module will help them to enhance the knowledge of school children regarding health hazards of junk food.

DELIMITATIONS

The study is delimited to:

- The school children from freedom concept school.
- School children between the age group of 8 – 12 years.
- Duration of the study is oneweek.
- The study is limited to 100 school children.

CONCEPTUAL FRAME WORK

Conceptual framework refers to concepts that offer a frame work of proposition for conducting the research.

The conceptual framework set up for the study is modified model of Daniel L. stuffle beam's evaluation model of planned programme (2003). The model is based on the premise that relevant information is foundational to sound judgment about the relative merits of alternatives available in the evaluation process. He proposes four decision types developed by crossing an ends means dimension and an intended actual dimensions, the four elements of the model are context, input, process and product. Thus named "CIPP" model.

The model is adopted in a modified form for the present study. According to the to the model,the content identifies discrepancies between intended and actual programme outcome and the evaluator can develop casual explanation for the discrepancies.

The core value for present study is enhancing knowledge regarding health hazards of junk foods among school children.

CONTEXT

According to the theorist, the context is used to define the operational context of programs and to assess needs and problems. In this study the context are collective demographic variable (Age, Sex, Educational status of father and mother, Religion, occupation of father and mother, Family income per month, Typesof family, Total number of children in the family, pocket monkey per month, frequency of eating junk food, reason to eat junk food ,Source of previous health information regarding hazards of junk food) and assessment of pretest knowledge among school children. The knowledge is assessed by using structured interview schedule among school children.

INPUT

According to the theorist, input is determined by structured decisions. Especially important to this component are decisions about human, material and resources. The input of present study is preparation and development of power point presentation, poster and pamphlets and implementation of planned instructional module regarding health hazards of junk foods.

PROCESS

According to the theorist, process monitors acquisition of knowledge regarding health hazards of junk foods among school children.

PRODUCT

According to the theorist the product provide information to inform decisions about congruence of intended and actual ends on achieving important outcomes the product evaluation of present study is post test evaluation of knowledge regarding health hazards of junk foods, knowledge is interpreted as adequate knowledge, moderate knowledge and inadequate knowledge.

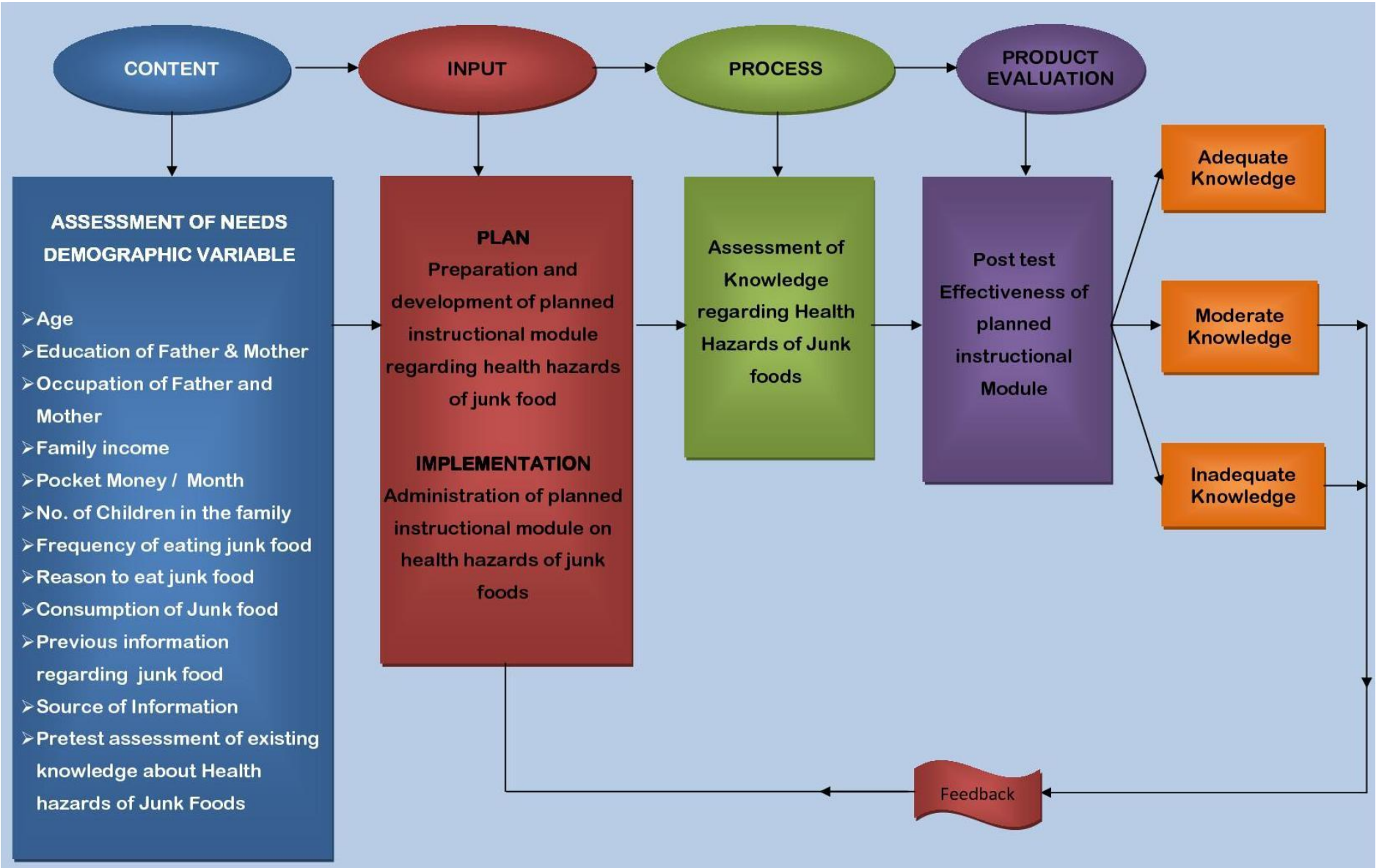

FIGURE 1: CONCEPTUAL FRAMEWORK BASED ON DANIEL. L STUFFLE BEAM'S MODIFIED CIPP MODEL (2011)

CHAPTER-II
REVIEW OF LITERATURE

The term literature review refers to an extensive and systematic examination of publications relevant to research project. Before starting any research a literature review of previous studies and experiences to the proposed study must be done.

This chapter deals with a review of research studies and related material for the present study. The review helped the researcher to develop an insight into the problem area and helped to build the foundation of the study.

The review of literature consists of

- ❖ Literature related to changing trends in children's eating pattern.
- ❖ Literature related to promoting factors for consuming junk foods.
- ❖ Literature related to health hazards of junk foods.

LITERATURE RELATED TO CHANGING TRENDS IN CHILDREN'S EATING PATTERN:

Brezniz.Z, (2009) conducted a survey of what children eat during lunch in nine schools across jaipur. The study covered 200 children in the age group of 9 to 14 years. It found that 65% of the children ate junk food and fast food, 43% guzzled aerated drinks along with it. The survey showed that pizza was the most preferred foods among the school children.The study shows that nutritious food is replaced by junkfood in school and the children were not aware of healthy eating habits.

Ethan A. Huff (2010) conducted a study in Oxford University in U.K, the results revealed that children who eat processed junk food can directly affect their state of mind and even have the power to drastically

alter the behavioural patterns in them. In which he revealed that processed junk food consumption can lead to aggression, irritability and even violent tendencies.

Without the proper nutrients the body cannot produce the appropriate chemicals and hormones required for clear thinking and healthy mood, which in turn can lead to irrational and even dangerous behavior.

Frazier JP, Barratt MS (2012) conducted a study to document the prevalence of junk foods seen at clinic visits. A cross-sectional 23-item survey of observed food items were completed by medical staff using a convenience sample of families. The study was conducted in paediatric clinics affiliated with the University of Texas Medical School at Houston. Convenience sample consisting of 738 families with children from 4 months to 16 years old presenting for visits were included in the study. Children exclusively breast and formula fed was excluded. Junk food was observed 20.9% at the clinic visits. Junk food was often seen at clinic visits. There was a trend toward higher body mass index in children whose families had junk food at the visit.This indicates that the children are practicing unhealthy eating habits.

Johnson.C.M et al, (2011) conducted a study that aimed to understand mother's everyday food choices using one type of visual method-participant-driven photo-elicitation. The study revealed that mothers with a more defined health identity made healthier choices for themselves and similar food choices for their children. In addition, they exhibited behaviours that positively influenced their children's foods choices. Mother who struggled to see themselves as healthy indulged with more junk food and indicated a feeling of anxiety and guilt, these mothers food choices were more disconnected from their children and

they tend to prepare more junkfood for their children instead of healthy nutritious foods.

Mogasale . V. (2010) conducted a study to assess the seriousness of the problem of obesity in school going children. Questionnaires were used to assess their lifestyle habits. The result revealed that over 17% children were found to be overweight. Some of them had high blood pressure and a family history of diabetes mellitus.on the whole 11% children preferred eating lunch from the school canteen ,and over 81% children claimed that they went out of a fast food at least once a week, 62% children liked eating junk food like burgers. Pizzas, etc and 47% children took at least one cold drink every day.Results showed that overweight children have 70% change of becoming overweight or obese adults in future.Majority of 81% of children had the habit of eating in fastfood.the result of the study showed that unhealthy eating practice cause obesity in children.

Nirmala desikan.s et al., (2010) conducted a study to raise awareness about junk food consumption by children. As part of her campaign, which ran in 60 schools across Chennai, a combination of junk and healthy food was laid out on a table in each school. They gave the children a tray and asked them to pack their lunch. About 80% of the children picked the tray with junk food and the study showed that today's children are behind junk foods without knowing that hazardous effect and their awareness about nutritious food is inadequate when compared to that of junkfood.

Shahin Shahr and Mayhem (2009)conducted a study to assess the relationship between junk foods intake and weight among 6-8years school children. Anthropometric measures were done and 24-hour food recall used for dietary information and analyzed with food processor and then compared with dietary reference intakes 2008 (DRI).Prevalence of

overweight or obesity and abdominal obesity was 6.9 percent and 46.1 percent respectively. systolic blood pressure was 105.2 ± 15.6 mm/Hg and diastolic was 62.2 ± 10.4 mm/Hg.The study showed that totally 3.9 percent of the children had hypertension.

These results indicated appropriate level of macronutrients intake and unbalanced food mainly junk food. It is recommended to increase intake of important food groups such as dairy, vegetable, fruit that include good source of micronutrients, and also it is suggested that need for strategies can improve competence in the area of nutrition.

Seki .a et al (2008) conducted a study to describe junk foods and beverages consumed at schools in terms of number of serves. The data has been collected from 1000 children aged 4 to 12 years. The result of the study showed 38% of children had fruit bars, 59% had packed snacks like potato chips, wrafers. 28% had chocolate bars during their lunch and coffee breaks.10% of the students purchased fast foods from canteens and junk food shops . Reduction in unhealthy foods or junk foods would improve healthy eating habits in school lunch.

Sally Oaken (2011) suggested that Junk food advertisement on TV strongly influence children's eating habits. Young children exposed to advertisement for unhealthy food products may show a tendency to consume unhealthy foods in higher amounts and may face an increased risk of obesity and associated health problems.

Children between the ages of sixto thirteen years were shown ten advertisements for junk food. After watching the ads, the children were provided with a questionnaire in which they were asked to choose between three food options.

The options were described as "high fat, high carbohydrate", "high protein," and "low energy." The high protein options included

items like roast chicken. The low energy options included items like salad.The children were then shown a series of ten advertisements for toys and presented with a similar questionnaire.

The results of the study suggested that children exposed to unhealthy food advertisements showed unhealthy eating preferences. These effects were especially pronounced among study subjects who typically watched more than 21 hours of TV per week. They made these unhealthy selections and the children did not discriminate based on brand. According to lead researcher Dr. Emma Boy land, this was one of the most worrisome results of the survey. Existing network rules already outlaw junk food advertising on dedicated children's channels and on programs directly targeted to children under the age of nine.

Talebi et al (2006) conducted a study on students of Khorram Abad they showed that the consumption of snacks was respectively 20 and 18 percent junk foods among which chips and biscuits were the highest consumption than others. Daily salty snack reported 53%, fruit stripe 56%, chewing gums 77% and soda 35% .20 percent of students consumed soda more than 4 times a week and 15% of them consumed salty snacks three times a week.

However, in this study nearly8.65 percent of the subjects consumed soda more than four times a week and 9.2 percent of them used salty snacks more than three times a week and reduction in consumption of such junk foods is due to lack of awareness among parents about the unhealthy nature of junk foods.

University of Otago (2014) conducted a study to call for ban on junk food advertisement among the children. Junk food advertising to children is urgently needed to help fight increasing rates of childhood obesity, say University of Otago .Free toys, gifts, discounts and competitions, promotional characters and celebrities, and appeals to

taste and fun, are just some of the techniques used by marketers to promote junk food to kids, according to a recent systematic literature review.

Such marketing has been proven to increase children's requests for the advertised foods, their food preferences and ultimately their diets. For example, free toys, discounts and competitions promote brand loyalty and improve purchase rates.

University of Otego Wellington colleagues called for an outright ban on junk food advertising to children under 16 years of age to prevent childhood obesity.

Zhonghua and Liu Xing Bing. (2008) conducted a Study on factors related to top 10 junk food consumption between 8 to 16 years of age, in Haitian District of Beijing .Ten types of junk food consumption (assessed by World Health Organization) among children and adolescent as well as the contributing factors so as to provide evidence for developing preventive and control measures and interventions. A questionnaire survey was conducted to investigate the consumption of ten types of junk food practices in 1019 children and adolescent aged between 8-16years.

One month prior to the study, 97.50% of the children and adolescent had eaten at least one type of junk food and 15.88% of them had eaten all types of them. Rates on having eaten deep fried food, pickled food, processed meat products, biscuits, coke orfizzy drinks, convenience fast food, canned food, dried or preserved fruit, cold and sweet food, barbecue food appeared to be 70.43%respectively. The rate on eaten more than once in a dayof these ten types were 37.91respectively. The rates for "do not like" and "dislike" these ten types junk food were only 10.96%. Most of the children and adolescent ate junk food mainly during breakfast at home. Most of the

surveyed children and adolescent did not have correct idea on nutrition of junk food.

They received the information of junk food mainly from sources as advertisement on TV (67.95%), mother (9.02%), newspaper or magazines (6.71%). Many factors, such as individual factors including physiological and psychological situations, social factors, family factors andthe characteristics of food contributed to the junk food practices of children and adolescent. Education strategies on nutrition should be developed and launched in order to help children to develop their own healthy eating habits.

LITERATURE RELATED TO PROMOTING FACTORS FOR CONSUMING JUNK FOOD:

Ahmadi et al (2009) conducted a study to review the correlation between snacks of school-age children in Yasouj [place] with anthropometric assessments of 1790 children (53.6% boys and 46.4% girls) were evaluated and it was indicated that the children who commonly had snack with them had greater height growth and the prevalence of stunting in children received snack were lower than their classmates. Among the snacks, biscuit and cake, salty snack and chips, chocolate and candy respectively were the highest consumed items and nuts and dairy were the lowest consumed items.

In this study TV advertisements, showed that Most of the advertised foods had low nutritional values and advertising companies tired to encourage children to consume their products with different strategies. However, in the present study, among the junk foods (chips, crunchy, snack, candy, chocolate, cacao, biscuits, cakes and cookies, soda and unnatural juices), cake, biscuit and syrup were the highest weekly frequency and it was perhaps cause harmful effects to the children.

Boyland (2012) stated in British department of health that almost one in ten of six year olds and fifteen percent of fifteen year old children in England were currently classified as obese. Britain is facing an obesity epidemic, A watershed for junk food adverts would ensure that they are banned from not just children's programs during the day but programs shown at night where families view them together. Parents also need to limit their children's screen time and talk to them about the motives behind advertising junk foods.

Carter OB Patterson LJ (2011) conducted a study of Children's understanding of the selling versus persuasive intent junk food advertising, Evidence of the study suggested that until 8 years of age most children are cognitively incapable of appreciating the commercial purpose of television advertising and are particularly vulnerable to its persuasive techniques. After this age most children begin to describe the 'selling' intent of advertising and it is widely assumed this equips them with sufficient cognitive defences to protect against advertisers' persuasion attempts.About 594 children were recruited from each grade from Pre-primary (4-5 years) to Grade 7 (11-12 years) from ten primary schools in Perth, Western Australia and exposed to a McDonald's television advertisement.

Understanding the purpose of television advertising was assessed both nonverbally (picture indication) and verbally (small discussion groups of 3-4), particular distinction made between selling versus persuasive intent. Consistent with previous literature, a majority of children described that 'selling' intent of television advertising by 7-8 years both nonverbally and verbally, increasing to 90% by 11-12 years. Awareness of 'persuasive' intent emerged slowly as a function of age but even by the oldest age-group was only 40%. Vulnerability to television advertising may persist until children are far older from previous

thought. These findings have important implications regarding regulation of junk food,which have impact on childrens health.

Dean wr , et al (2009) conducted a study to determine the relation ship Between the presence of television during meals and the children's food consumption and conducted the study among 91 parents and children. Children 10to 14 years were selected ,24 hour's dietary recall was conducted. The result showed that there was a significant association between television and children's consumption of caffenine related foods.children from families of high television viewing derived 5 percentage more than their energy intake of junk foods when compared to other families.

Food Commission (2003) found that children see more than 5,000 television commercials for junk food every year .food advertising accounted for half of all advertisements hired during children's programmes, with three-quarters promoting high-calorie, low-nutrient foods. And manufacturers have plenty of money to spend. The food industry's global advertising budget is $40 billion, more than the gross domestic product of 70 per cent of the world's nations and 500 times more than the World Health Organization is able to spend on preventing the diseases that junk food causes.

Harris JL, Graff SK (2012) stated in his article of protecting young people from junk food advertising.

In the United States, one third of children and adolescents are overweight or obese, yet food and beverage companies continue to target them with advertising for products that contribute to this obesity crisis. When government restrictions on such advertising are proposed, the constitutional commercial speech doctrine is often invoked as a barrier to action.

We explore incongruities between the legal justifications for the commercial speech doctrine and the psychological research on how food advertising affects young people. A proper interpretation of the First Amendment should leave room for regulations to protect young people from advertising featuring calorie-dense, nutrient-poor foods like junk foods.

Victor Srasburger (2012) stated in American academy of paediatrics that Congress should pass legislation prohibiting junk food commercials on TV shows aimed at children, and paediatricians should support a ban or severe restrictions on unhealthy food advertisements appearing in television and schools.

The AAP's policy asks Congress and the Federal Communications Commission (FCC) to restrict children's commercial exposure during children's television programs to five or six minutes per hour . 50 percent reduction from current allowances

Recent studies highlighting increasing rates of childhood obesity have shown that children are constantly bombarded by ads for unhealthy foods and drinks. Advertisement appearing on the internet, video games, cell phones, school buses and on school campuses encourage kids to buy unhealthy products , Critics also point out that the UK has already passed laws banning such advertising to children.

World Health Organization (2010) recommends the reduction of "Both the exposure of children to, and the power of, marketing foods. In a synthesis of peer-reviewed scientific research on persuasive marketing techniques used to promote food to children on television, the researchers found premium offers, the use of promotional characters, nutritional and health claims, and the themes of "taste" and "fun" were commonly uses to promote unhealthy food to children. The study is the

first of its kind to focus on common techniques used to promote food to children on television.

LITERATURE RELATED TO HEALTH HAZARDS OF JUNK FOODS

Ashley Gerhardt (2013) published in his journal of archives of general psychiatry found that the addictive nature of many junk foods is literally the same as the addictive nature of drugs. These rewarding properties howeve lie primarily in junk food chemicals. Many processed junk foods are loaded with flavor enhancing chemicals like monosodium glutamate (MSG), high-fructose corn syrup (HFCS), and aspartame which are known to be highly-addictive. MSG, for instance, over-excites the brain to the point that it actually causes neurological brain damage.

Bhaskar et al (2012) stated in the journal of drug delivery and therapeutics regarding the junk food and its impact on health as:

Low Nutrition Value

The nutritional value is lost in the process of making the junk food so synthetic vitamins and minerals are added to compensate it, but they are not good compared to natural vitamins and minerals.

Highly Addictive

It is well known fact that fat and sugar are as addictive as heroin and cocaine, they stimulate the same receptors in the brain that make feel good due to increased dopamine level.

High Chemical Additives

Junk food have lots of chemical additives which are not useful to body, things are like artificial colouring and preservatives. MSG and tartrazine is in almost all type of junk food and all sorts of medical studies have revealed that MSG causes obesity .

Lack of Oxygen Supply

Junk food is rich in fat so accumulation of fat can takes place in bronchioles so oxygen supply tends to reduced in body.

Clinical paediatrics (2014) suggested that there is rapid rise in rates of childhood obesity has also been making the headlines. According to the Medical Research Council, the number of obese six-year-old children were doubled over the past 10 years, with numbers trebling for 15-year-olds. One in five children is now considered obese. Type two diabetes, usually associated with adults and caused by poor diet, has become evident in children for the first time during the past few years due to unhealthy intake of food.

Donroe. J, et al (2009) conducted a study to describe the association of dental carries and intake of chocolates and beverages in children.642 school children in the age group of 4 to 7 years are selected dental carries were identified in the children during dental examination by dentists. The results showed that the children had higher mean intakes of regular beverage consumption. The study recommends the paediatricians to be in a position to provide preventive guidance to parents of young children act (2010)was passed by congress government to let the government set new guidelines for nutrition standards in schools. This bill involves totally revamping the current school lunch program. Healthy organic alternatives are to replace French fries, pizza, fried chicken, salty snacks and fast foods. School cafeterias are only part of the problem in which, 74% of middle schools and 98% of high schools have vending machines and snack bars that offer endless choices of junk food. It's important to give kids healthy options. Some healthy alternatives to junk food include organic yogurt, gluten-free snacks, nuts, whole grain crackers and whole fruits.

Hunger-Free Kids Act (2010) Federal funds are to increase 6percent per school lunch thanks to this bill. It is expected to cover the higher cost of whole foods and may include the use of healthy vending machines. Replacing junk food with organic alternatives will ensure that kids get at least one nutritious meal per day. Trimming calories and fat from school lunches alone won't cure childhood obesity. Healthy choices need to be made at home as well, but removing junk food from school lunches and vending machines is a good start.

Gerald Weismann, M.D(2008) *stated in FASEB Journal* that addiction to junk food is true addiction "Junk food engages the same body chemistry as opium, morphine or heroin. Sad to say that junk food during pregnancy turns the kids into junk food junkies." Eating junk food while pregnant changes the development of the opiod signaling pathway in the developing brain. This change results in a higher tolerance for food that is loaded with sugar and fat. Essentially, babies are born "junkitarian." They need to eat higher amounts of fat and sugar in order to feel satisfied.

Greg Crits (2001) conducted a joint study by Harvard University and Boston Children's Hospital stated that such excess liquid calories inhibited the ability of older children to compensate at mealtime, leading to caloric imbalance and, in time leads to obesity.

One extra soft drink a day gave a child a 60 percent greater chance of becoming obese. One could even link specific amounts of soda to specific amounts of weight gain. Each daily drink added .18 points to a child's body mass index (BMI). Thus, the researchers noted, regardless of what else they ate or how much they exercised. Consumption of sugar [high fructose corn syrup]-sweetened drinks is associated with obesity in children.

International Obesity Taskforce [IOTF] (2006) stated in his report that UN agencies and governments to develop globally enforceable regulations to ban or severely limit exploitative marketing techniques aimed at children to sell junk food.

At the International Congress on Obesity in Sydney, the IOTF outlined seven principles that worldwide governments should uphold to protect children from junk food ads, hopes of stemming the obesity pandemic. The Taskforce recommends limiting or outright banning TV, internet and newspaper advertising, sponsorship, competitions, loyalty schemes and product placements aimed at children of 13years and younger. The IOTF also says that industry self-regulation has been ineffective, and governments must step in and implement regulations to ban on advertising junkfood.

Kim MJ, Kim SA(2013) Conducted a study on Microbial diversity and prevalence of food borne pathogens in cheap and junk foods consumed by schoolchildren.

Escherichia coli and eight food borne pathogens were tested in 1008 cheap junk foods, including candies, dried cakes, chewing gum, chocolate, dried and seasoned seafood, ice cream, and sugary foods.

Bacillus cereus was detected in 68 samples ,Escherichia coli and Listeria monocytogenes were detected in 6 and 1 samples respectively whereas other food borne pathogens were not isolated. The highest bacterial counts were associated with dried and seasoned seafood products and dried cakes, suggesting that appropriate regulations of these food types should be considered. Cheap and junk foods were produced mainly in developing countries, but there were no significant differences in the bacterial counts among different countries of origin. The presence of food borne pathogens may pose a risk for children. These results suggest that there is cause for deeper concern about the

safety of these foods and that effective countermeasure should be established to improve their microbiological safety. The present study may contribute to the development of an appropriate child food safety management system.

Michael Murray ND (2005) suggested in the Encyclopedia of Natural Medicine about the health effects of drinking soda, Dietary factors have been suggested as a cause of osteoporosis, including: low calcium-high phosphorus intake, high-protein diet, high-acid-ash diet, high salt intake, and trace mineral deficiencies. It appears that increased soft drink consumption is a major factor that contributes to osteoporosis. A deficiency of vitamin K leads to impaired mineralization of bone. Boron deficiency may contribute greatly to osteoporosis as well as to menopausal symptoms."

"Soft drinks have been suspected to lower calcium levels and increase phosphate levels in the blood. When phosphate levels are high and calcium levels are low, calcium is pulled out of the bones. The phosphate content of soft drinks like Coca -Cola and Pepsi is very high, and they contain virtually no calcium." "Soft drink consumption in children poses a significant risk factor for impaired calcification of growing bones."

"Of the fifty-seven children who had low blood calcium levels, thirty-eight (66.7 percent) drank more than four bottles (12 to 16 ounces per bottle) of soft drinks per week, but only forty-eight (28 percent) of the 171 children with normal serum calcium levels consumed as much soft drink . These results showed that soft drink consumption leads to lower calcium levels in children. This situation that ultimately leads to poor bone mineralization, which explains the greater risk of broken bones in children who consume soft drinks. Soft drink consumption may be a major factor for osteoporosis as they are high in phosphates but

contain virtually no calcium. This leads to lower calcium levels and higher phosphate levels in the blood.

National Center for Chronic Disease Prevention and Health Promotion stated that the rate of childhood obesity has tripled in the last 30 years. Junk food is one of the culprits for the obesity epidemic. Kids are exposed to junk food in many ways, from unhealthy parental role models to marketing geared towards kids and teens that encourages them to make unhealthy food choices. Kids are also offered poor food choices at school. A clean environment is the first step in helping kids makes healthier choices. School lunches and vending machines are loaded with extra fat and calories. Replacing these junk foods with organic alternatives gives kids better options.

The problem with fast food items and junk food is they lack nutritional value, while also delivering a high dose of fat, calories, sugar, salt and carbs. These foods are robbing kids of essential vitamins and minerals. Eating excessive amounts of these foods leads to obesity and malnutrition.

Raychaudhuri M, Sanyal D (2012) stated that Childhood obesity is a grave issue, which needs to be addressed urgently because it leads to several medical and psychosocial problems in children. High prevalence is being increasingly reported in children from developing countries as well. The combination of our genetic propensity to store fat, the ready availability of calorie dense foods, and sedentary lifestyle promotes overweight. The child's food environment at home and parental obesity are strong determinants. Urban poor children in developed countries and urban rich in developing countries are both at risk

Evaluation includes assessing the child's lifestyle, excluding weight-promoting medication history poor linear growth needs endocrine evaluation genetic syndromes should be considered if there

are clinical pointers. Overweight children should be evaluated for hypertension, dyslipidemia. Therapeutic lifestyle changes targeting food habits and physical activity through parental participation and social support are the cornerstones of preventing childhood obesity. Active travel and play by making the built environment more accessible, ban on 'junk' food advertising, and effective health education through active participation of clinicians, school systems, and the media will go a long way in reversing anticipated trends in childhood obesity.

Shona Botes (2011) stated that Junk food can lead to lower IQ in children. Researchers in Britain have discovered that feeding children with junk or processed foods can actually lower their IQ. The diets and general health and well-being of 14000 children born from 1991 to 1992 in western England were monitored at ages three, four and a half, seven and again at age 8. It was found that a poor diet during the early developmental years could in fact lead to a lower IQ by the age of 8.Those consuming the diet of processed foods scored an average of 101 IQ points; whereas, those consuming the healthier diet scored an average of 106 IQ points. IQ point scoring fell by 1.67 for each increase on the chart that reflected the amount of processed fat they consumed.

A healthy and balanced diet seems to be just as important to raising your child`s IQ levels as it is to keeping them healthy in other areas as well. It`s therefore important to ensure that your child eats a wide variety of fresh, whole foods and avoids the junk food, especially during the developmental years, as it does affect them later in life. Damage is done by the consumption of these junk and processed foods during the early years. A lower IQ makes them less able to cope with school, peer pressure and many other areas in life.

Sherry Baker (2011) published an article that 140 organizations confront UN demanding recognition junk food and beverage industries

kill 36 million a year. The United Nations Summit on non-communicable diseases (NCDs) is being held in September in New York and 140 international non-governmental agencies (NGOs) and public health organizations are using the meeting to confront the UN. Representatives of the group, who have published their concerns in the Online First version of The Lancet, stated it is time for the UN to understand many products and marketing strategies promoting such things as soft drinks and junk foods contribute substantially to the development of non communicable diseases that kill 36 million people every year.

There are clear conflicts for the corporations that contribute to the profit from the sales of alcoholic beverages and foods with high fat, salt, and sugar contents .For example, they pointed out in a media statement that tobacco and alcohol use and poor diet from empty calorie junk foods contribute significantly to NCDs such as cardiovascular disease, diabetes, chronic respiratory diseases, and cancer. Bottom line of these food and beverage products may be responsible for 60 percent of mortality rate in children worldwide.

Sarang Paschal (2012) stated about the increase in consumption of junk food in India. Indians now find themselves among the top 10 most frequent consumers of fast food across the globe. According to the findings of the latest online survey from ACNielsen, a leading international market research firm, over 70 per cent of urban Indians consume food from take-away restaurants once a month or more frequently. This makes India one of the top 10 countries amongst the 28 surveyed, in terms of frequency of fast food consumption.

The incidence of fast food consumption in urban India is accelerating at a fast pace. Contrary to the belief that reliance on home-made preparations may hinder the growth of fast food, an altered view

towards out-of-home meals, a willingness to spend and, most importantly, the urban Indian are more involved in consuming junkfoods.

Menaka Gandhi (2014) Union Minister for Women and Child Development, proposed a order to ban junk food from all school canteens across the nation and should be replaced with the healthy food options.

The term 'junk food' is not defined in the Prevention of Food Adulteration Act but it is understood that any food that has poor nutritional value and is considered unhealthy may be called as junk food."

The Health Ministry in an affidavit to the Delhi High Court as stated that junk food lacks micro-nutrients like vitamins, minerals, amino acids and fiber but is high in energy. Junk food is responsible for obesity, dental cavities, diabetes and heart diseases as studies have shown that it is high in fat, sodium and sugar. In this regard the FSSAI is soon going to come out with its guidelines for quality food in school canteens but after it completes a project and gets the approval of the guidelines by a scientific panel. The guidelines from FSSAI are still to come but The Women and Child Development Minister, in order to provide impetus to ban junk food in school canteens, is making every effort to get this ban as part of food safety plan among school going children.

CHAPTER-III
RESEARCH METHODOLOGY

The methodology in the research study is defined as the way in which data was gathered in order to answer the research questions or analyze the research problem. The research methodology involves a systematic procedure by which the researcher had to start from the initial identification of the problem to its final conclusion.

This chapter deals with methodology adopted for the study including the description of research design, setting, and population of the study, sampling technique, data collection and data analysis.

RESEARCH APPROACH

Research approach is the most significant part of any research. The appropriate choice of the research approach depends on the purpose of the research study which is undertaken.

A research approach tells the researcher from whom the data is to be collected, how to collect and how to analyse them. It also suggest the possible conclusion and help the researcher in answering specialist questions in the most accurate and efficient way. **(Rose grippa and gorney lucero, 1994).**Evaluative research approach is used for this study.

RESEARCH DESIGN

Research design is the overall plan for obtaining answers to the questions being studied and for handling some of the difficulties encountered during the research**.** ***(Polit and Hungler-1999).***

The research design adopted for this study is pre experimental one group pretest and post test research design was used for assessing the

effectiveness of planned instructional module on health hazards of junk foods among school children.

$$O_1 \quad x \quad O_2$$

O1 Pre test (Assessment of knowlegde on healthhazards of junkfoods)

X Intervention (Planned instructional module on health hazards of junkfoods)

O2 Post test (Assessment of gained knowledge on healthhazards of junkfoods)

VARIABLES OF THE STUDY

Variables are defined as the characteristics properties, traits or attributes of a person or thing observed in a study. ***(Polit and Hungler-1999)***.

Dependent Variable

The dependent variable is the variable that the researcher is interested in understanding (or) predicting. ***(Polit and hungler-1999)***.

In this study the level of knowledge on health hazards of junk foods among school children is dependent variable.

Independent Variable

Independent variable is the variable stands alone and does not depend on any other .It influences the dependent variable ***(Polit and Hungler -1999).***

In this study the planned instructional module on health hazards of junk foods among school children is independent variable.

SETTING OF THE STUDY

The study was conducted in freedom concept higher secondary school in poigai at vellore district.The total number of students in the school were 950.Among them 4^{th} to 7^{th} standard comprise of nearly 250 students .Each class is divided into two sections. Each section consists of nearly 35 students. Around 25 students were selected from each class, comprise of both boys and girls. Total numbers of students selected were 100. The students were selected for the study on the basis of lottery method.

POPULATION

Population is the entire aggregation of cases in which the researcher is interested. ***(Polit and Hungler -1999).***

The population for the present study is school children (Age of 8-12years) from freedom concept higher secondary school at poigai in vellore district.

SAMPLE SIZE

The sample size comprised of 100 school children who are willing to participate in the study.

SAMPLING TECHNIQUE

Polit and beck (2006) sampling technique refers to process of selection of a portion of the population to represent the entire population.

Probability simple random sampling technique by using lottery method was used to select the children.

CRITERIA FOR SAMPLE SELECTION

Inclusion Criteria

- School children both boys and girls between the age group of 8-12 years.
- School children who are willing to participate.

Exclusion Criteria

- School children who has exposed to similar teaching previously.
- School children who are not available during data collection.

DESCRIPTION OF THE TOOL

The investigator constructed the instrument based on the objectives of the study through literature review and experts guidance. The data collection is divided into two sections, section one consists of demographic variable and section two consists structured questionnaire for assessment of knowledge regarding health hazards of junk foods.

SECTION-I

This section consists of information about demograpic variables such as age of the children, class studying, sex ,educational status of the parent, occupation of the parent, monthly income, Type of family, Total number of children in the family, Pocket money per month, frequency of eating junk food, reason to eat junk food, Source of previous health information regarding health hazards of junk food.

SECTION -II

This section deals with questionnaire for assessment of knowledge regarding health hazards of junk foods. It consists of 25 multiple choice questions related to health hazards of junk food among school children. Each correct answer will be given the score of one and the wrong answer will be given the score of zero. The total possible score will be 25.

SCORE INTERPRETATION

Score	Grade
0- 50%	Inadequate knowledge
51 % – 75%	Moderate knowledge
76 %-100%	Adequate knowledge.

CONSTRUCTION OF THE TOOL

The tool was constructed by reviewing the literatures extensively and by the suggestions and guidance given by the nursing experts. Keeping the objectives of the study in mind the content of the tool was organized.

CONTENT VALIDITY OF THE TOOL

Content validity of the instrument was obtained from experts in the field of pediatric nursing and medical pediatric specialist.

RELIABILITY

Reliability is the degree of consistency or dependability with which instrument measures the attribute it is designed to measure. ***(Polit and Hungler -1999).***

The method adopted for testing reliability of the tool was split half method. And the reliability was r=0.74reliability and practicability of the tool was tested through pilot study and used for main study.The study was proved to be reliable.

INFORMED CONSENT

The dissertation committee prior to the pilot study approved the research proposal. Permission was obtained from the principal of Freedom Concept Higher Secondary School in Poigai.The oral consent from the class teacher and school children was obtained before starting the data collection.

PILOT STUDY

Pilot study is a small scale trial run before the major study. The pilot study was conducted to check the clarity of items, reliability, feasibility and practicability of the research design.

The pilot study was conducted in the month of November 2013. Prior permission from the authorities was obtained and individual consent was taken from 10 students, selected for the study The study was conducted in freedom concept higher secondary school, Vellore for a period of one week. The questionnaire method was used to find out the reliability, feasibility and practicability of the tool was evaluated by experts of the research committee.

According to the probability simple random sampling technique ten samples had been taken and by using the questionnaire method the effectiveness of planned instructional module regarding knowledge about health hazards of junk foods among the school children was assessed.pretest and post test was done with a interval of seven days. The result of the study showed that there is positive correlation in the knowledge of school children and the study was found to be feasible.

DATA COLLECTION PROCEDURE

The data collection period was 4 weeks (20.1.14 to 20.2.14)After obtaining permission from the principal of freedom concept school for conducting the study. The investigator visit the school and explained about the nature and purpose of the study and in person gave planned instructional module regarding knowledge about health hazards of junk foods among school children between 8 to 12 years of age. After 7 days of break post test was conducted by the investigator to find out the effectiveness of planned instructional module.

DATA ANALYSIS

The data was analyzed by using descriptive and inferential statistical methods .They are used to find out the percentage ,mean, standard deviation, paired t test and chi square.

1) Descriptive analysis is used to find out the frequency and percentage distribution of demographic variable of the study.

2) Inferential analysis is used to find out the association between the selected demographic variable and level of knowledge about health hazards of junk foods among school children.

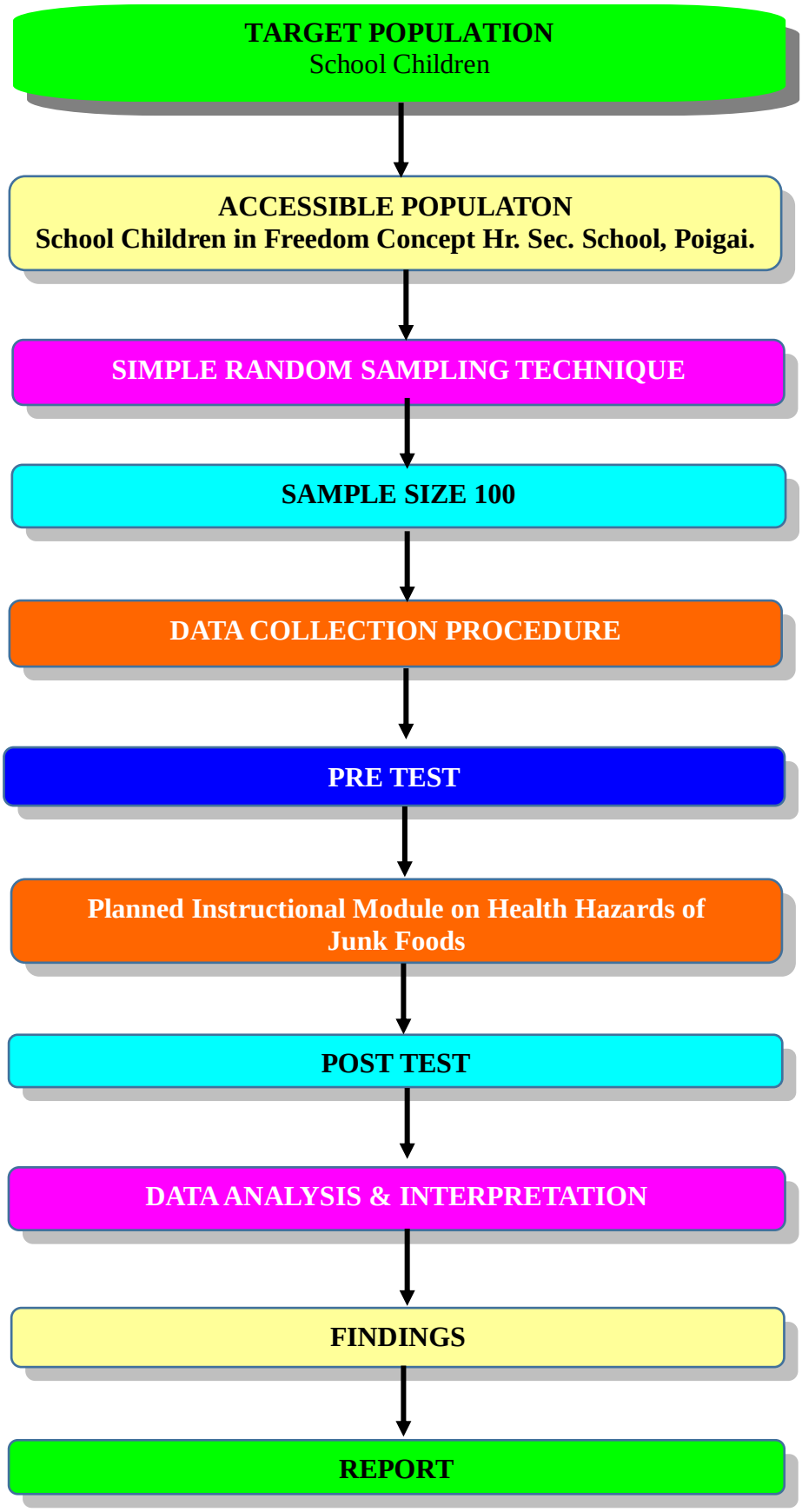

FIGURE-2- SCHEMATIC REPRESENTATION OF RESEARCH DESIGN

CHAPTER-IV
DATA ANALYSIS AND INTERPRETATION

Analysis is defined as categorizing, ordering, and manipulating and summarizing the data to obtain answer to research questions .The purpose of analysis is to reduce the data to intelligible and interpretable form so that the relation to each problem can be studied and tested.

Descriptive statistics (frequency and percentage) was used for demographic variables. Inferential statistics was used for analysis of mean values (t test) and Pearsons chi–square test was used for association with demographic variables.

This chapter deals with the description of tool, report of the pilot study ,reliability, validity, informed consent, scoring procedure, scoring interpretation, data collection procedure and statisticalanalysis.

STATISTICAL METHOD

Descriptive statistics (frequency and percentage) was used for demographic variables. Inferential statistics was used for analysis of mean values (t test) and Pearsons chi–square test was used for association with demographic variables.

DATA ANALYSIS AND INTERPRETATION HAD BEEN DONE UNDER THE FOLLOWING HEADINGS

Section-A

Frequency and percentage distribution of demographic variables of school children.

Section-B

Frequency and percentage distribution of level of knowledge among school children regarding health hazards of junk foods on pre and post test.

Section-C

Comparison between mean and standard deviation of pretest and post test level of knowledge on planned instructional module about health hazards of junk foods among school children.

Section-D

Comparison between mean and standard deviation of pre and post test on level of knowledge and effectiveness of planned instructional module on health hazards of junk foods.

Section-E

Analysing the association between demographic variables and post test level of knowledge on health hazards of junk foods among school children.

SECTION-A

Table 4.1 Frequency and Percentage Distribution of Demographic Variables of School Children .

N=100

Demographic variables		n	%
Age	8-9 Years	25	25.00%
	9-10 Years	25	25.00%
	10-11 Years	25	25.00%
	11-12 Years	25	25.00%
Sex	Male	43	43.00%
	Female	57	57.00%
Residentialarea	Urban	55	55.00%
	Rural	45	45.00%
Fathers Education	Illiterate	0	.00%
	Primary	2	2.00%
	High school	19	19.00%
	HSC	24	24.00%
	Graduate and Above	55	55.00%
Mothers Education	Illiterate	0	.00%
	Primary	4	4.00%
	High school	26	26.00%
	HSC	31	31.00%
	Graduate and Above	39	39.00%
Occupation of Father	Salaried	55	55.00%
	Business	39	39.00%
	Cooley	6	6.00%

Demographic variables		n	%
Occupation of Mother	Salaried	72	72.00%
	Business	4	4.00%
	Homemaker	24	24.00%
	Cooley	0	00%
Familyincomeper month	< Rs5000	1	1.00%
	Rs 5001-Rs10000	8	8.00%
	Rs10001- Rs 15000	32	32.00%
	Above Rs 15000	59	59.00%
Type of Family	Nuclear Family	63	63.00%
	Joint Family	37	37.00%
No of Siblings	One	12	12.00%
	Two	58	58.00%
	Three	18	18.00%
	more than three	12	12.00%
Pocket Money Per month	no pocket money	7	7.00%
	below Rs50	44	44.00%
	Rs 50-100	25	25.00%
	Above Rs100	24	24.00%
Frequencyof eating junkfood	Nil	9	9.00%
	1-3 Times	79	79.00%
	More than 3 times	12	12.00%
Reason for eating junkfood	Feel hungry	29	29.00%
	time pass	41	41.00%
	School interval	29	29.00%
	Peer pressure	1	1.00%

Demographic variables		n	%
Place of consumtion	Home	45	45.00%
	school canteen	0	.00%
	Shops	55	55.00%
previous Information about junkfood	Yes	93	93.00%
	No	7	7.00%
Source of Information About hazards of junkfood.	Mass Media	10	10.00%
	Friends/ Relatives	30	30.00%
	health personnel	4	4.00%
	family member	56	56.00%

Table 4.1 depicts the frequency and percentage distribution of demographic variables of school children.

Age of the children

Out of 100 children, 25(25%) were selected from the age between 8 to 12 years in each class.

Gender of the children

With regard to the sex of the children 42(43%) were male children, 57(57%) were female children.

Residential area

Regarding residential area 55(55%) of the children are from urban area and 45(45%) are from rural area.

Education of the father

Regarding the education of the father none of them are illiterates, 2 (2%) had their primary school education, 19 (19%) had their high school level education and 55 (55%) are graduates and above.

Education of the mother

Regarding the education of the mother none of them are illiterates, 4 (4%) had completed their primary school education,26 (26%) had their high school level education and 39 (39%)are graduates

Occupation of the father

With regard to the occupation of the father 55(55%) are salaried , 39(39%) were doing business,6 (6%) were Cooley.

Occupation of the mother

Regarding the occupation of the mother 72 (72%) were salaried,4 (4%) were doing business and 24 (24%) are homemakers.

Family income per month

On the basis of family income per month, 1(1%) of the families are getting less than rs 50000, 8 (8%) are getting income between 50000 to 10,000, 32 (32%) of the families are getting between 10,000 to 15,000 and 59 (59%) are getting more than 15,000 per month.

Type of family

Regarding type of family 63 (63%) were living in nuclear family and 37 (37%) were living in joint family.

Number of children in the family

Regarding total number of children in the family 12 (12%) of the families have one child ,58 (58%) of the families have two children, 18 (18%) have three children and 12 (12%) have more than three children.

Pocket money per month

With regard to the pocket money per month 7 (7%) of the children had no pocket money, 44(44%) had pocket money of below Rs.50/- per

month, 25 (25%) had pocket money between Rs.50 to Rs.100 and 24 (24%) had more than Rs 100 per month.

Frequency of eating junk food per day

With regard to the frequency of eating junk food per day majority of 79(79%) were eating 1 to 3 times per day, 29 (29%) of children are eating more than 3 times a day and 9 (9%) are not eating junk food.

Reason for eating junk food

Related to the reason of eating junkfood 29(29%) of children are eating junk food because they feel hungry, 41 (41%) were eating for time pass, 29 (29%) eat at school intervaland only 1(%) eatdue to peer pressure.

Place of consumption of junk food

Regarding place of consuming junkfood 45 (45%) eat at home, 55 (55%) were consuming at junk food shops and none of them are eating from school canteen.

Previous information regarding junk food

Based on the previous information regarding junk food 93(93%) had previous information regarding junk food and 7(7%) does not receive any information.

Source of information regarding healthhazards of junk foods

Regarding source of information about health hazards of junk food 10 (10%) received information from mass media, 30(30%) received information from friends and relatives,only 4(4%) from health personnel, 56 (56%) received information from family member.

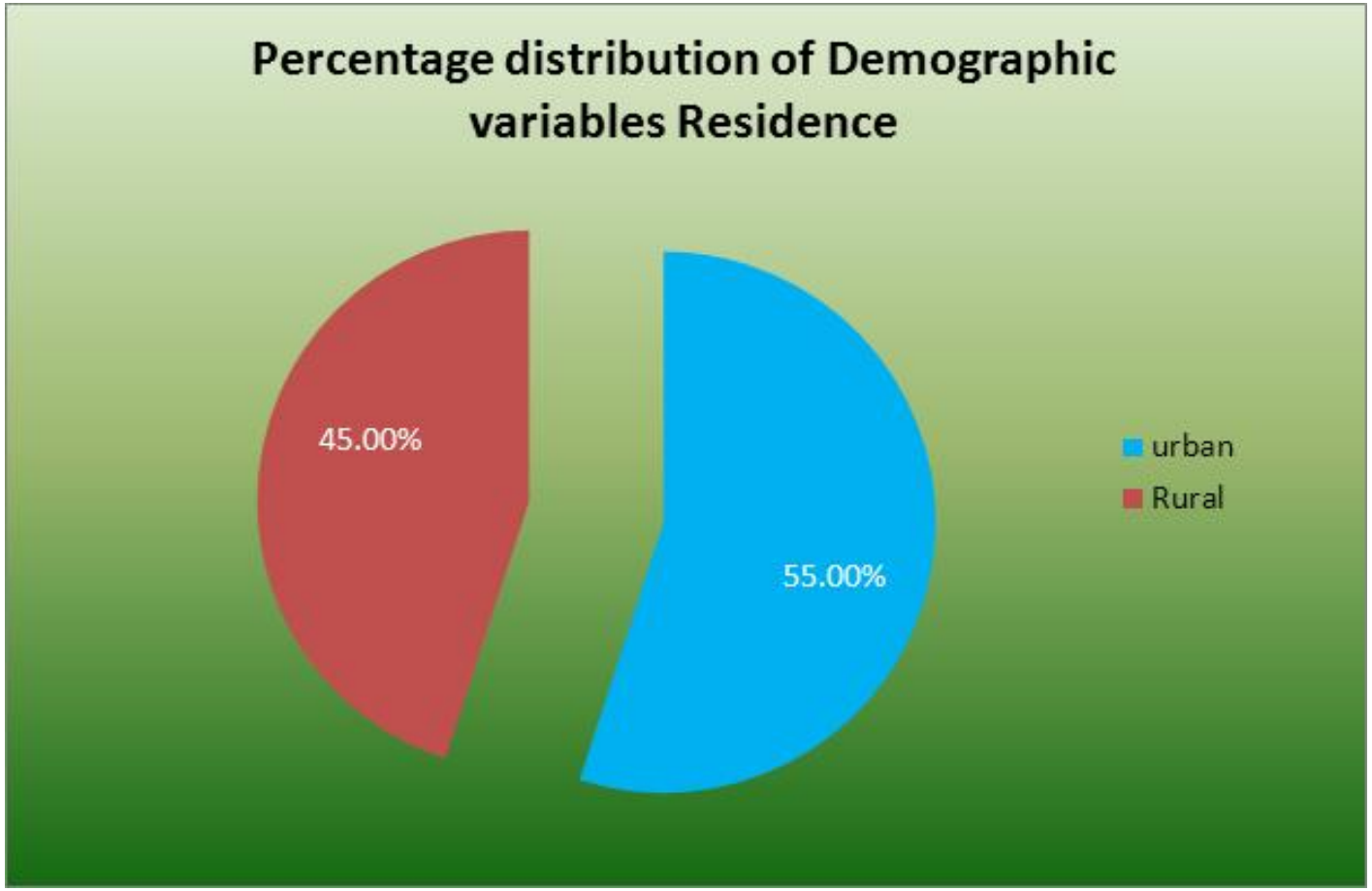

Fig-3: Percentage distribution based on Residence

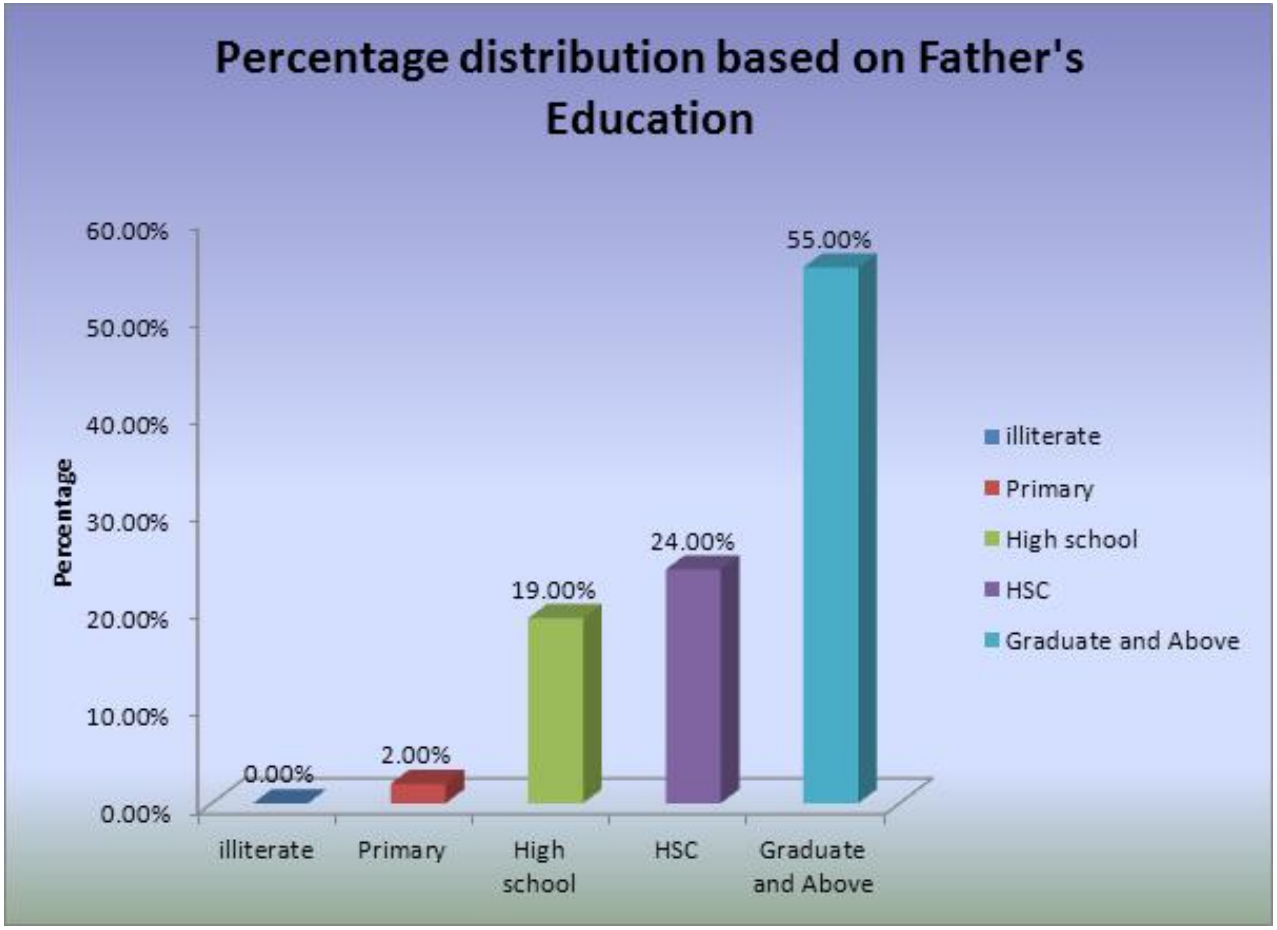

Fig-4: Percentage distribution based on Father's Education

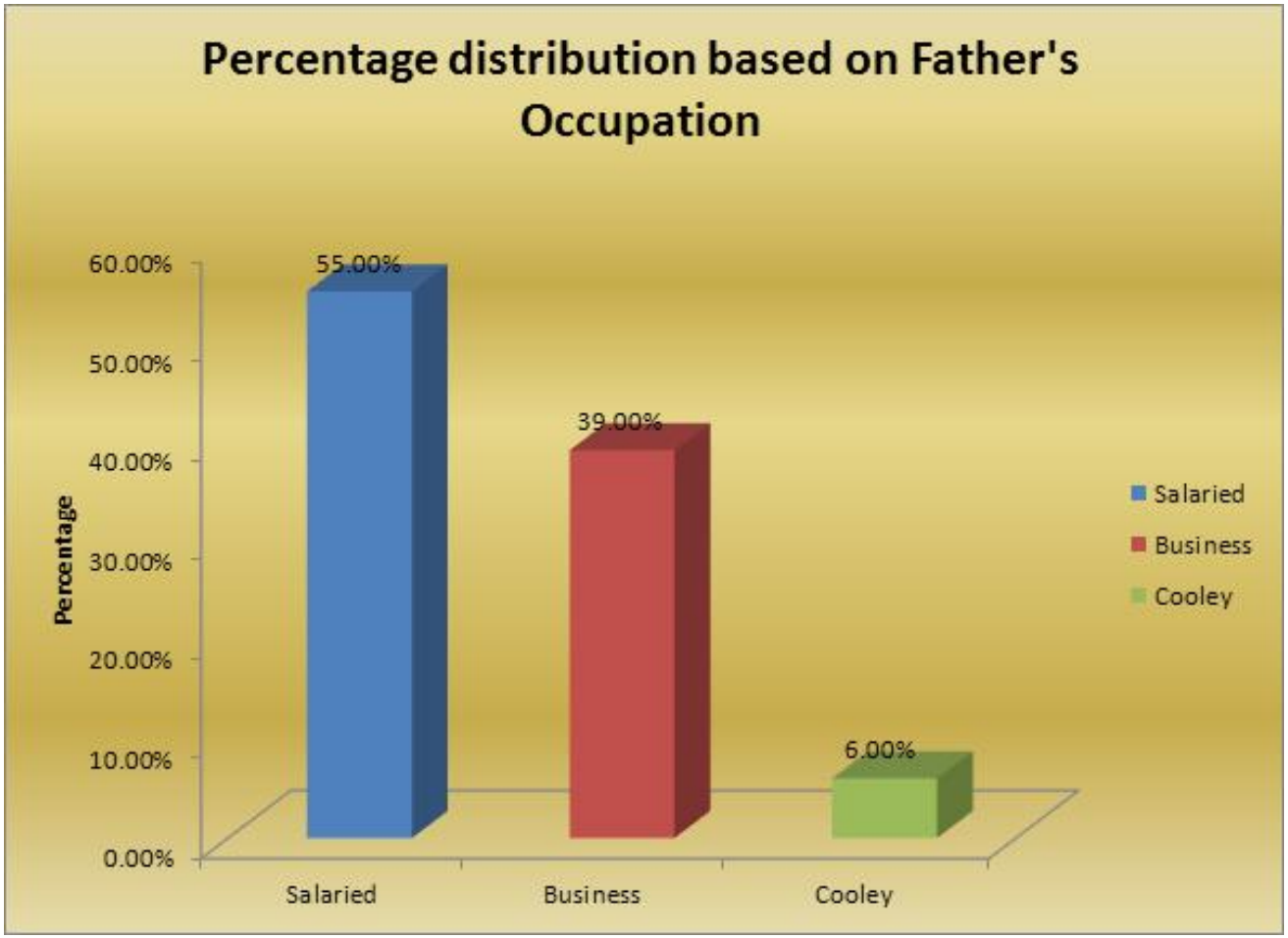

Fig-5: Percentage distribution based on Father's Occupation

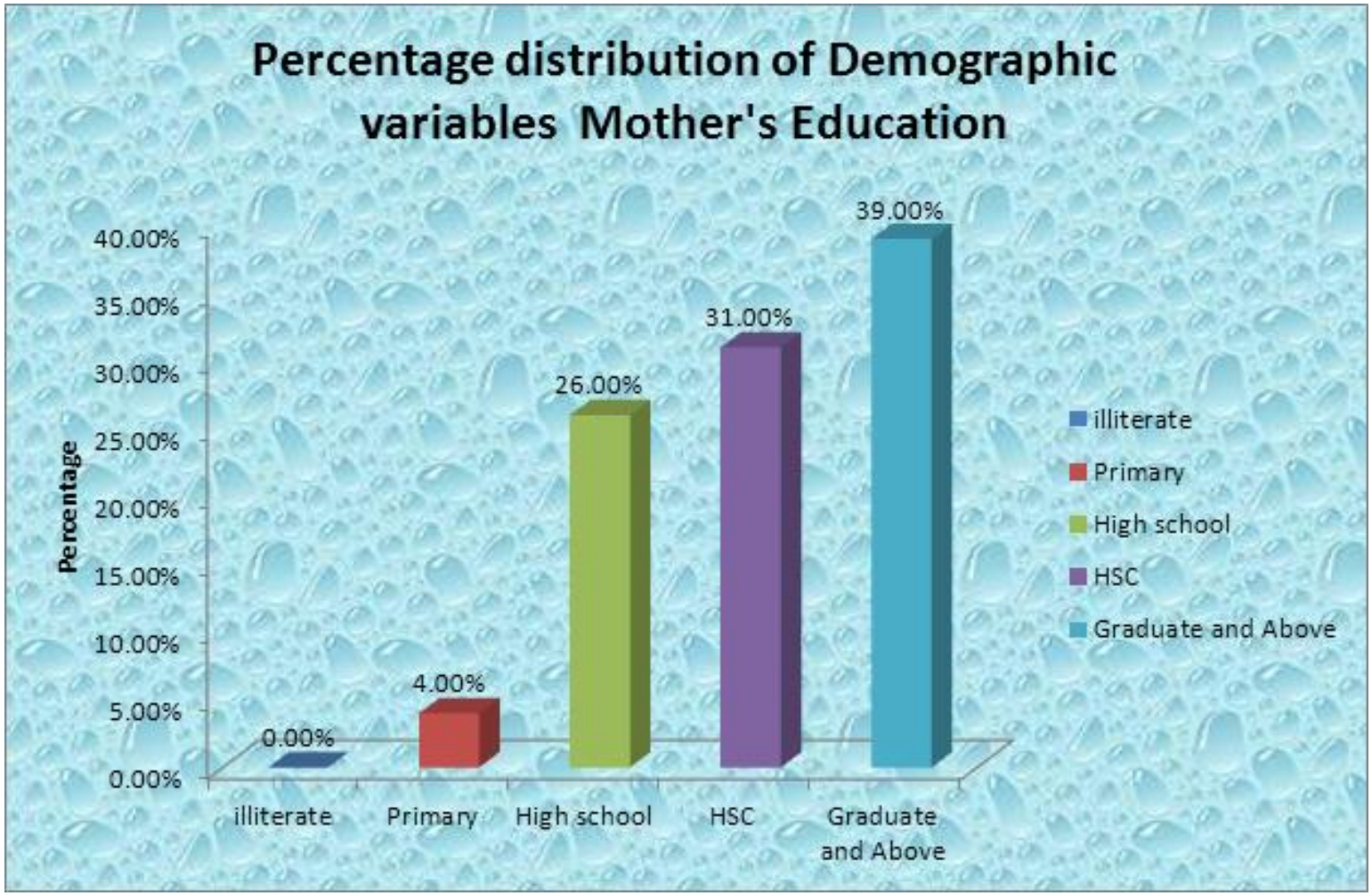

Fig-6: Percentage distribution based on Mother's Education

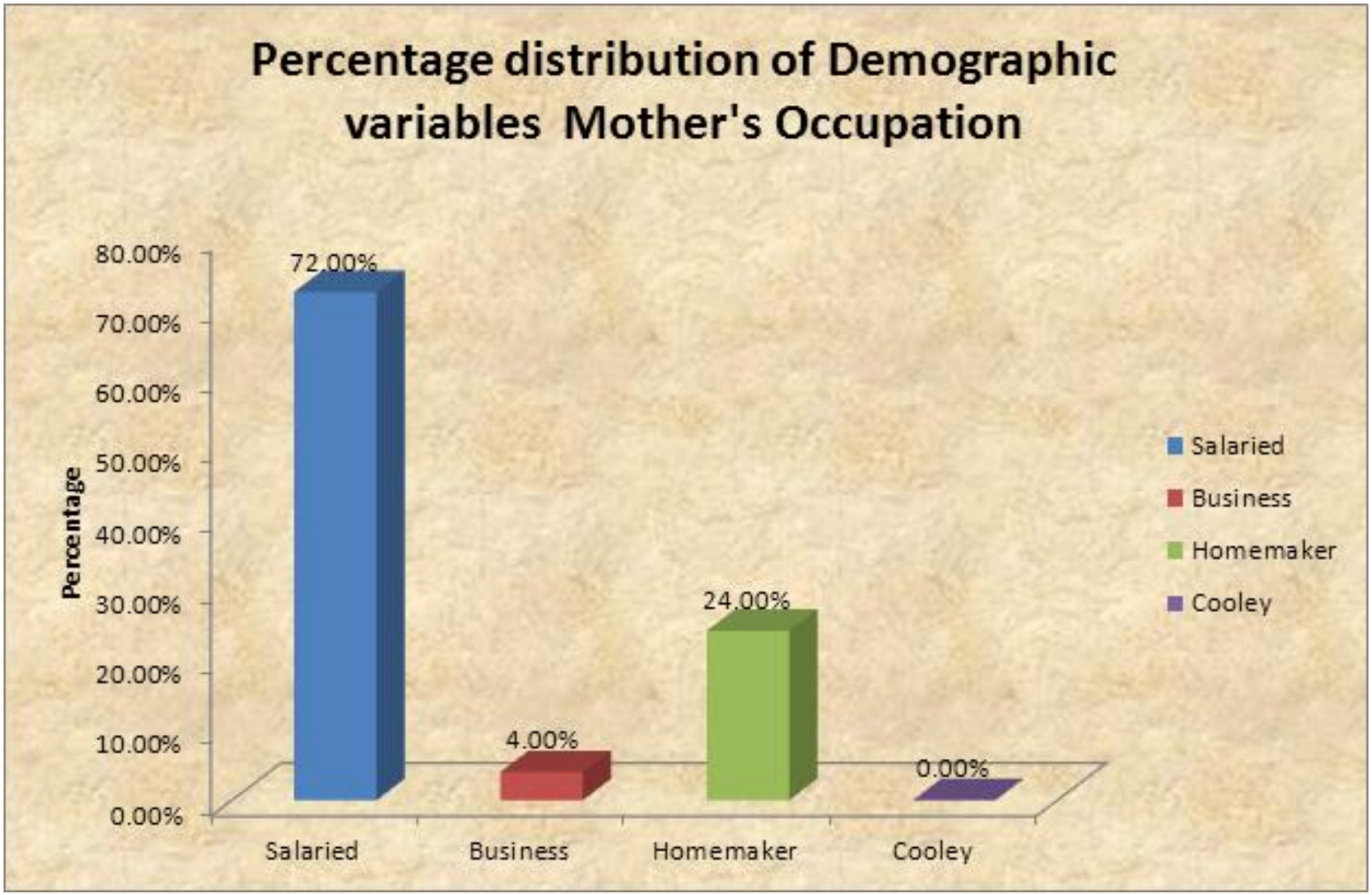

Fig-7: Percentage distribution based on Mother's Occupation

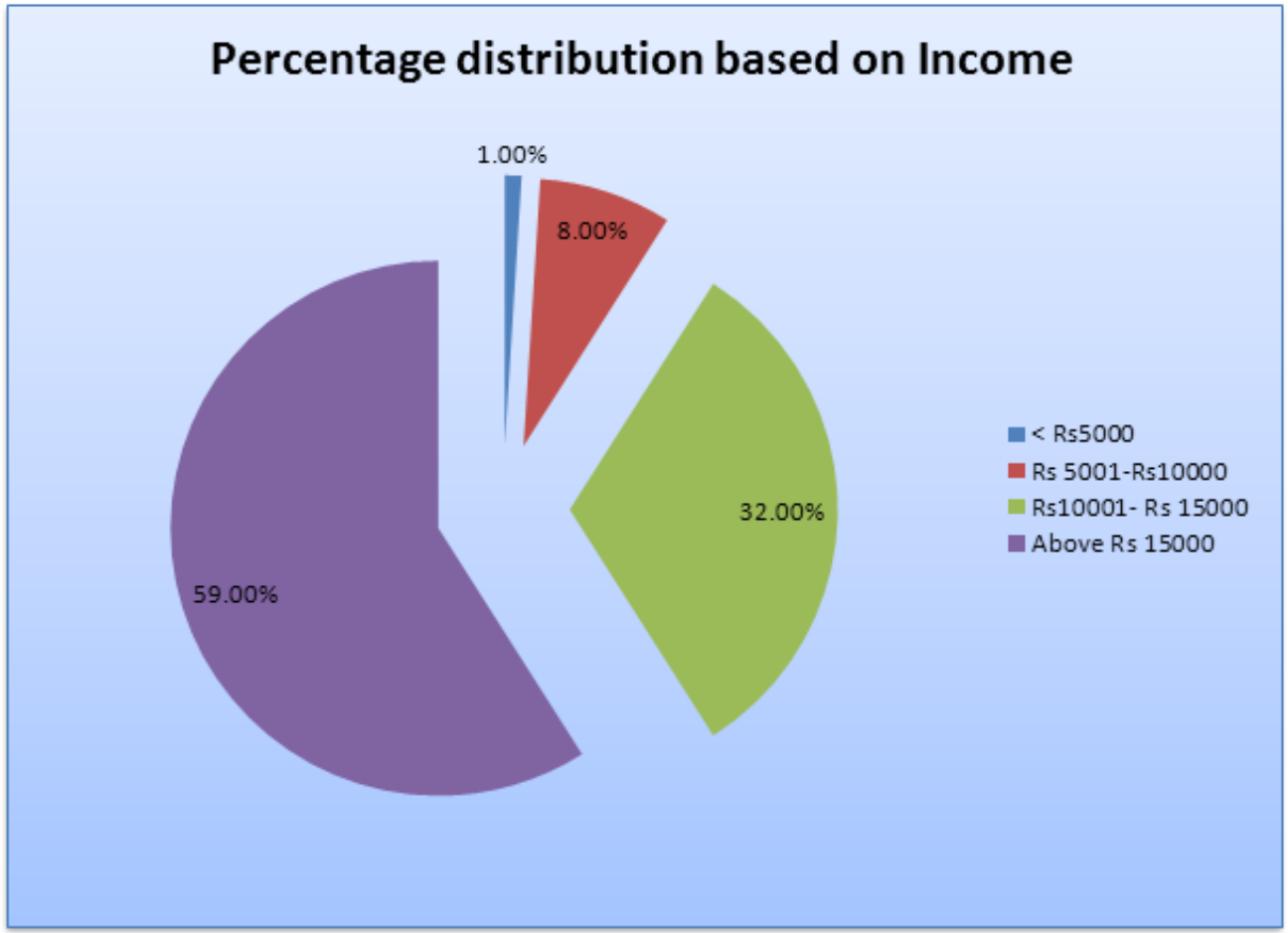

Fig-8: Percentage distribution based on Income

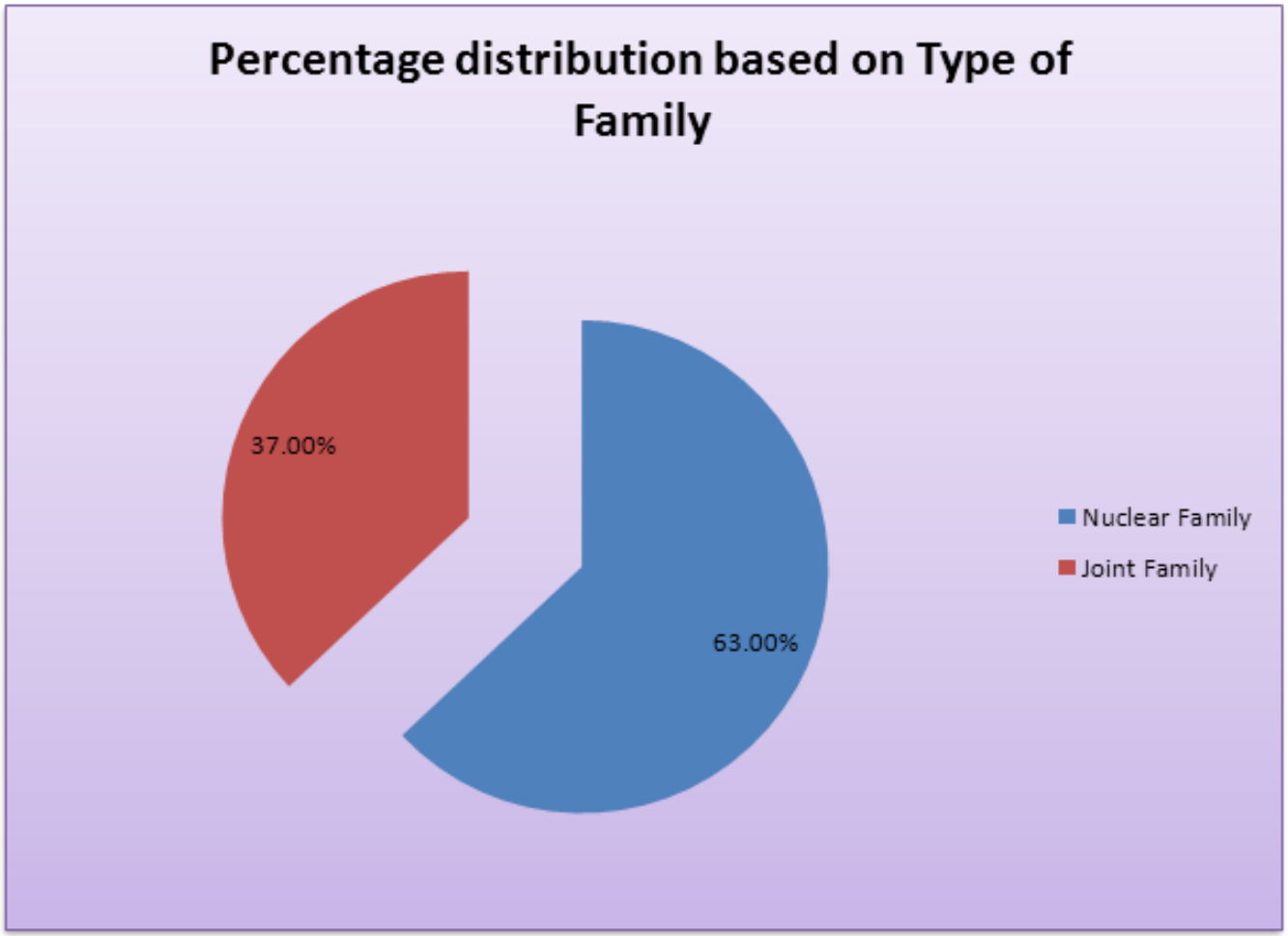

Fig-9: Percentage distribution based on Type of Family

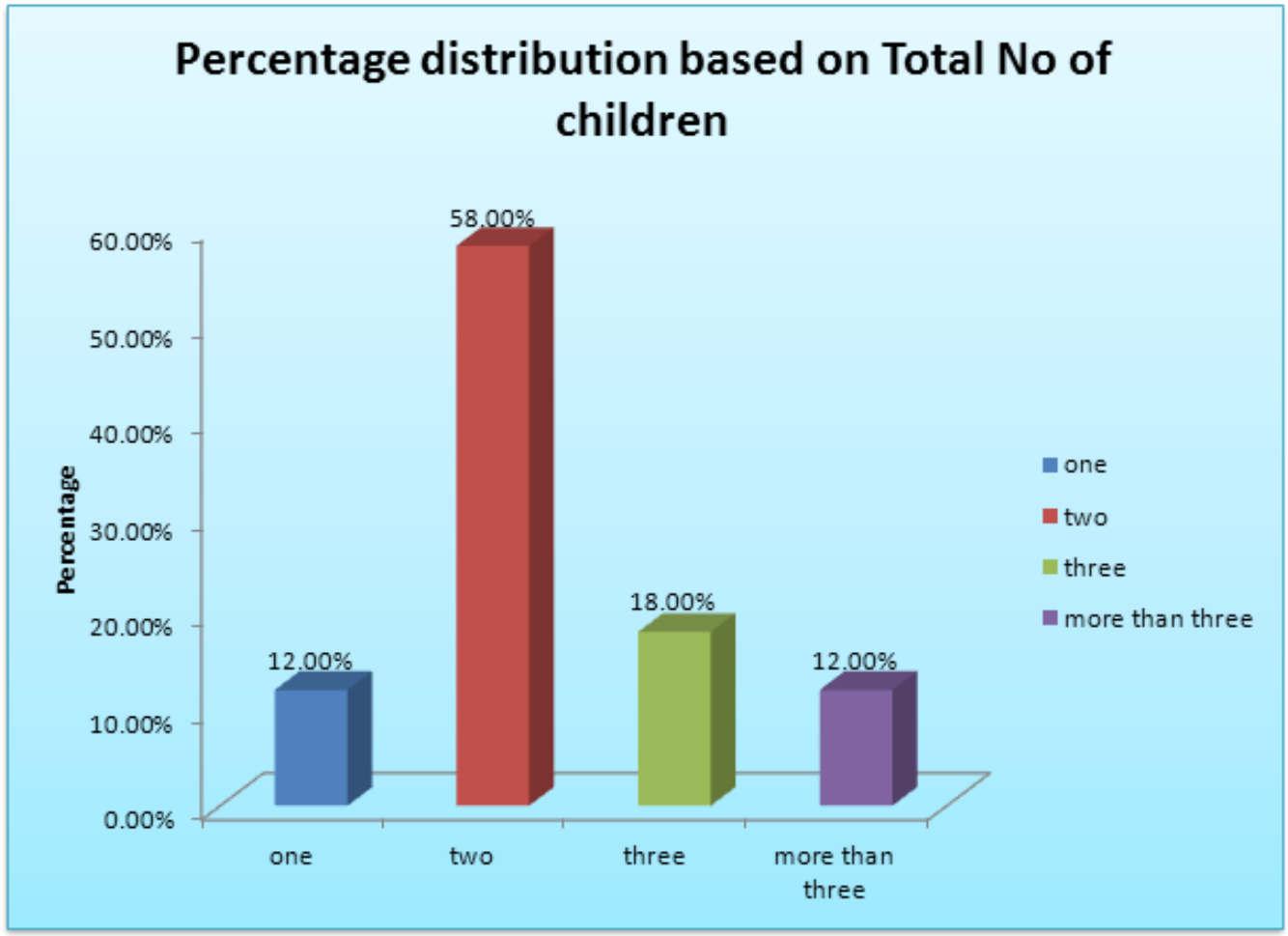

Fig-10: Percentage distribution based on Total No of children

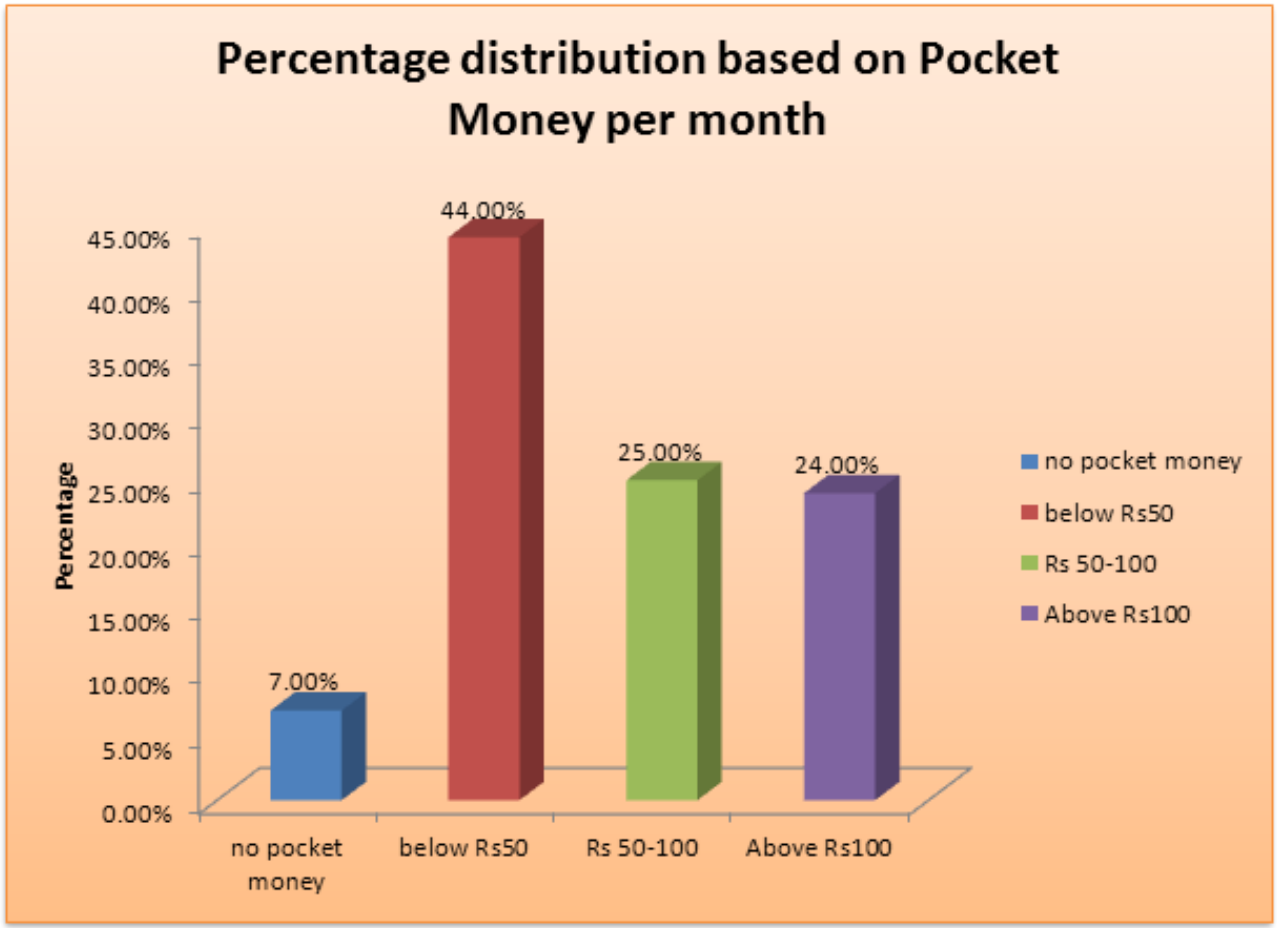

Fig-11: Percentage distribution based on Pocket Money per month

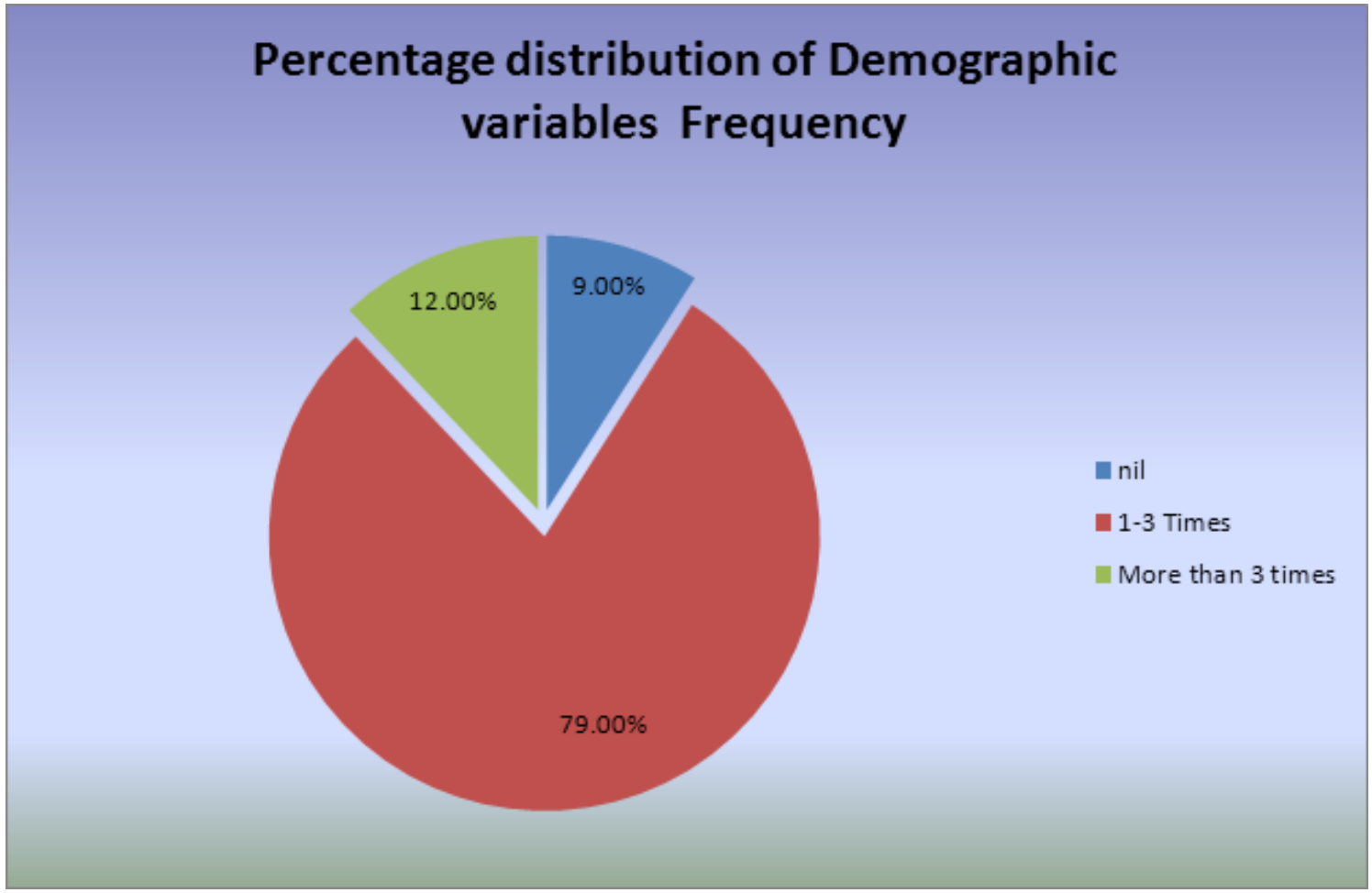

Fig-12: Percentage distribution based on Frequency of eating Junk food

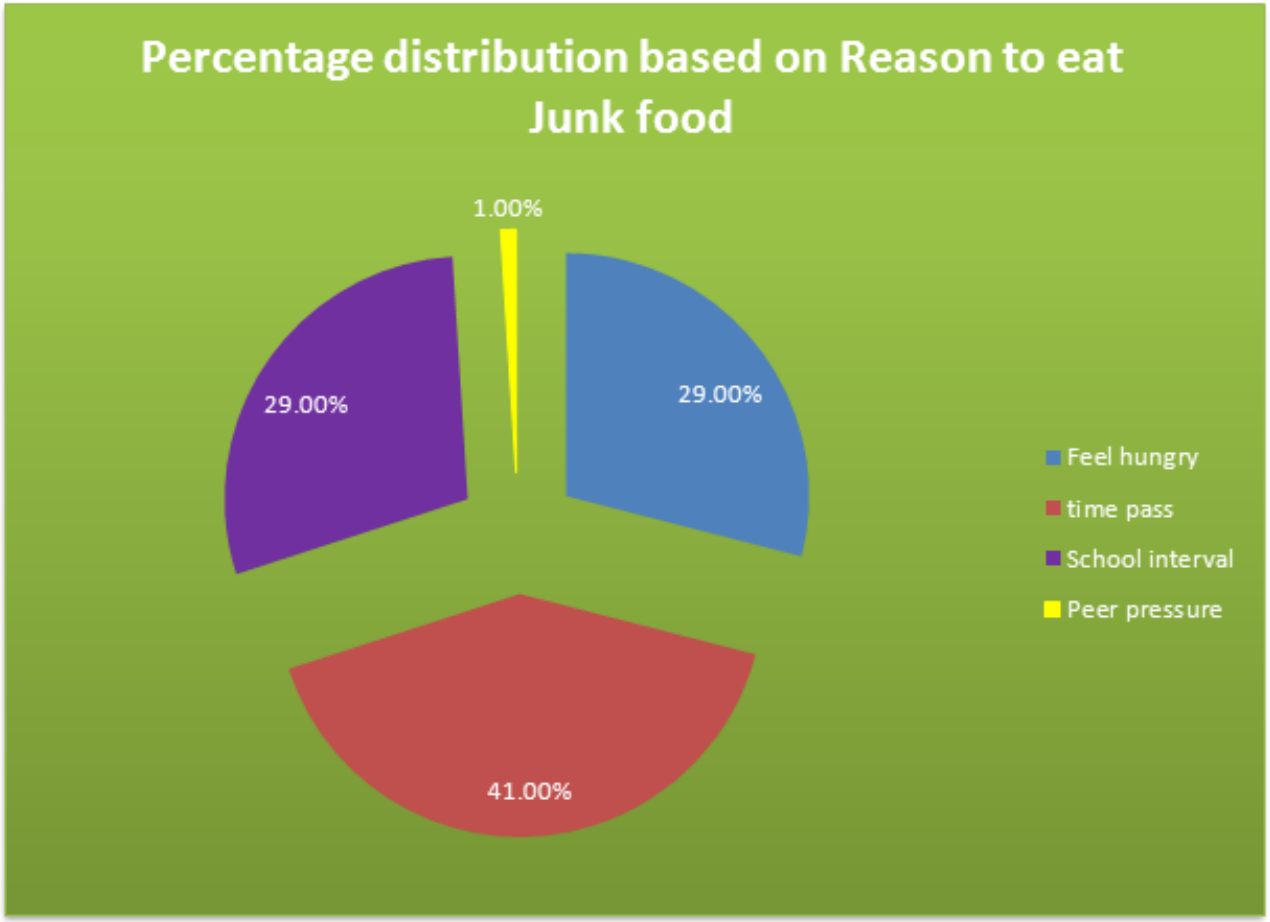

Fig-13: Percentage distribution based on Reason to eat Junk food

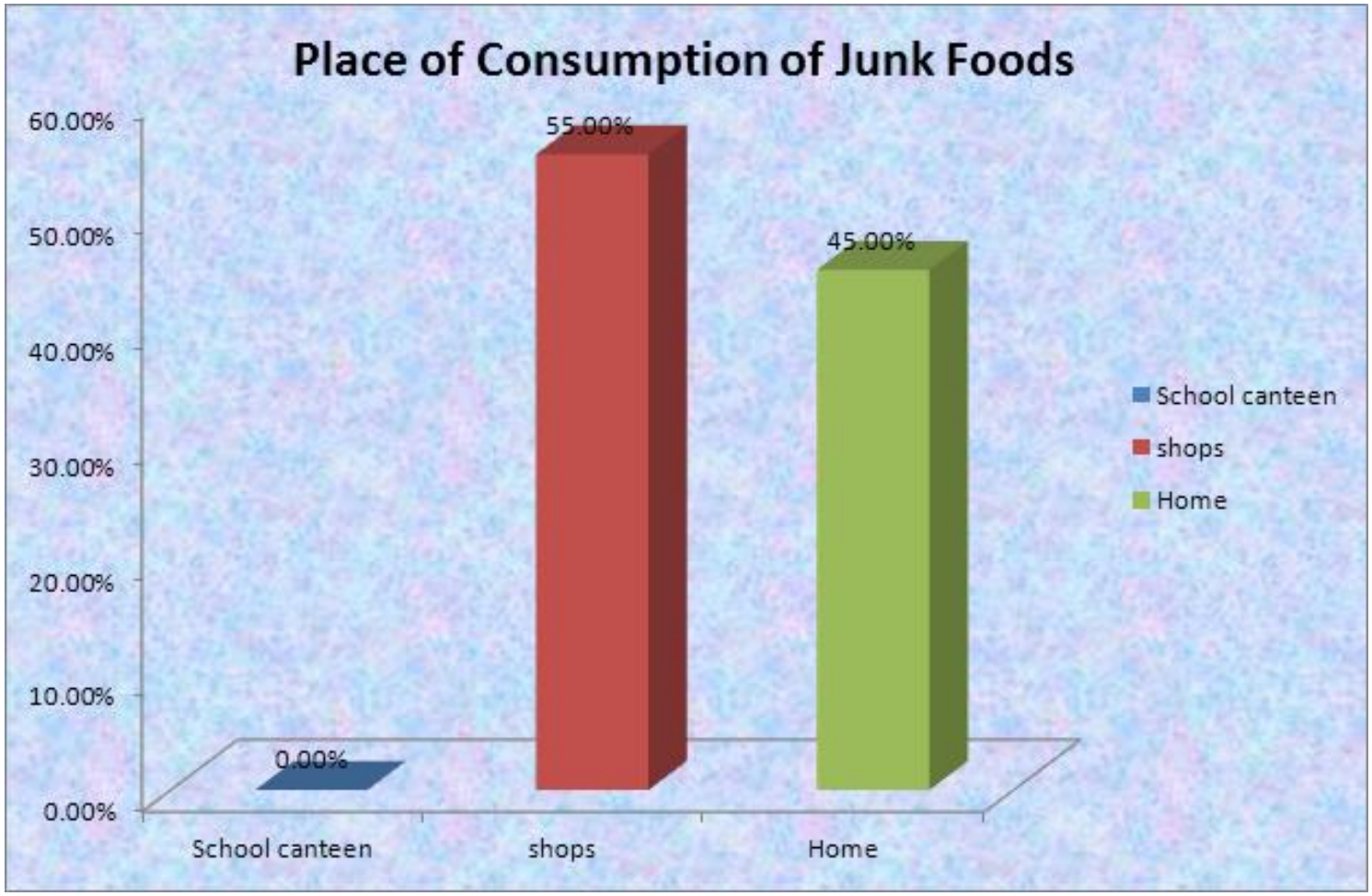

Fig-14: Precentage distribution based on place of consumption of Junk Foods

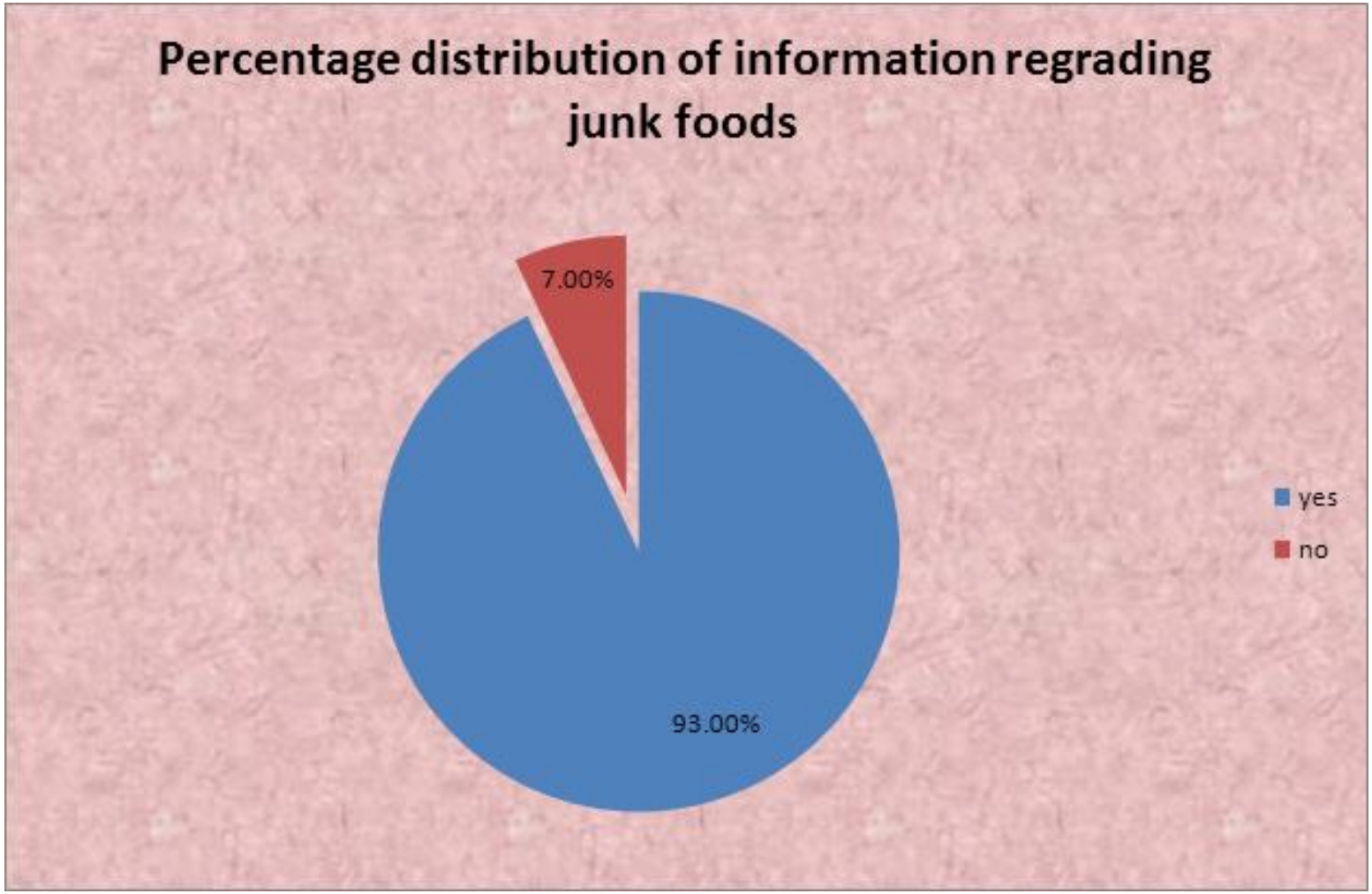

Fig-15:Percentage distribution based on information regarding junk foods

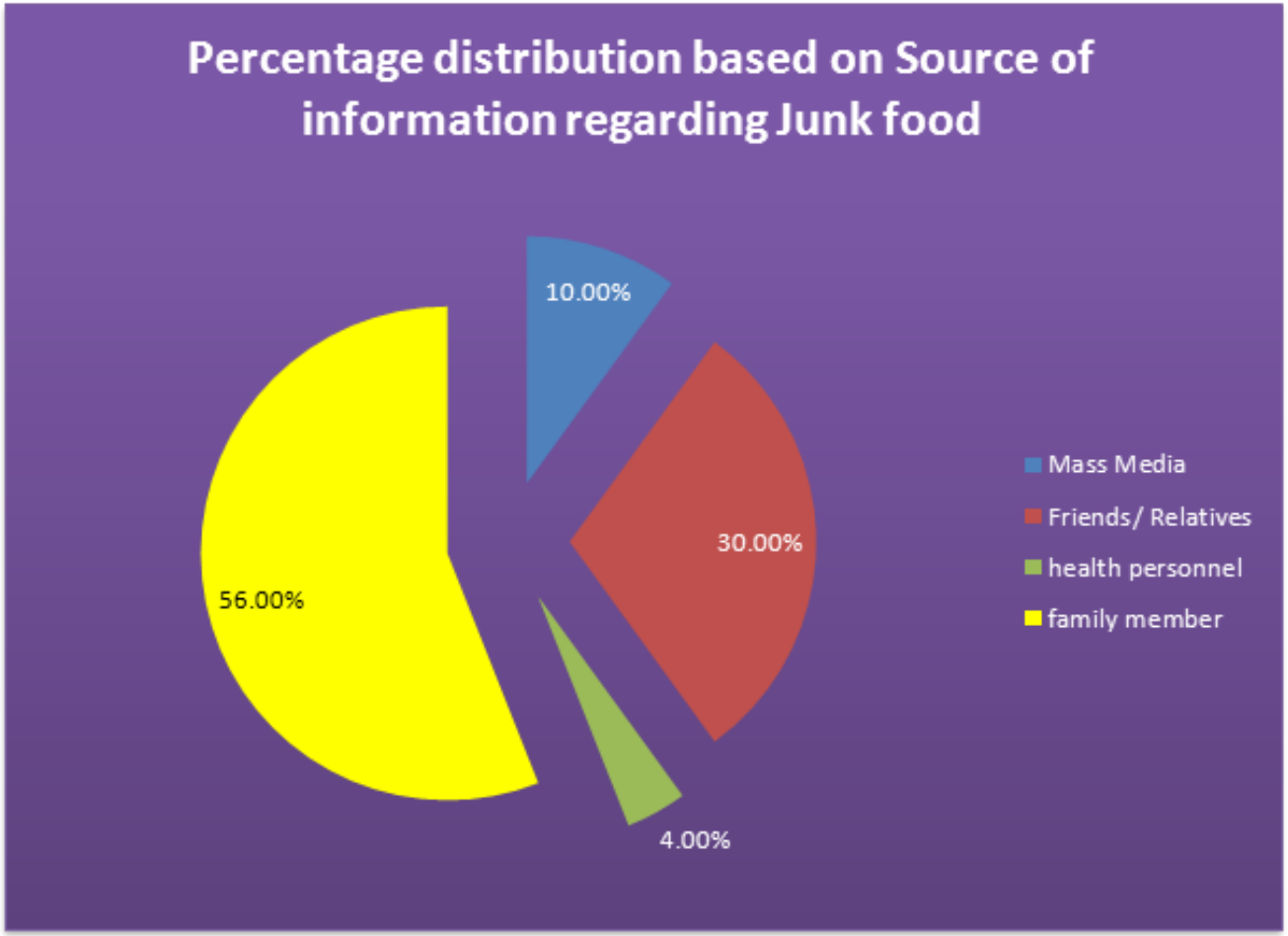

Fig-16: Percentage distribution based on Source of information regarding Junk food

SECTION-B

Table 4.2 Frequency and percentage Distribution of Level of Knowledge among School Children Regarding Health Hazards of Junk Foods on Pre Test and Post Test. N=100

Level of knowledge	Pre score		post score	
	f	%	f	%
Inadequate Knowledge	89	89.0	00	00.0
Moderate Knowledge	11	11.0	17	17.0
Adequate Knowledge	00	00.0	83	83.0
Total	**100**	**100.0**	**100.0**	**100.0**

Table 4.2 shows that the level of knowledge regarding health hazards of junk foods through pretest and post test. In pretest out of 100 school children, none of them had adequate knowledge, 11(11%) of children had moderate knowledge and 89(89%) of children had inadequate knowledge. With regard to post test score 83(83%) of children had adequate knowledge, 17 (17%) of them had moderate knowledge and none of them had inadequate knowledge.

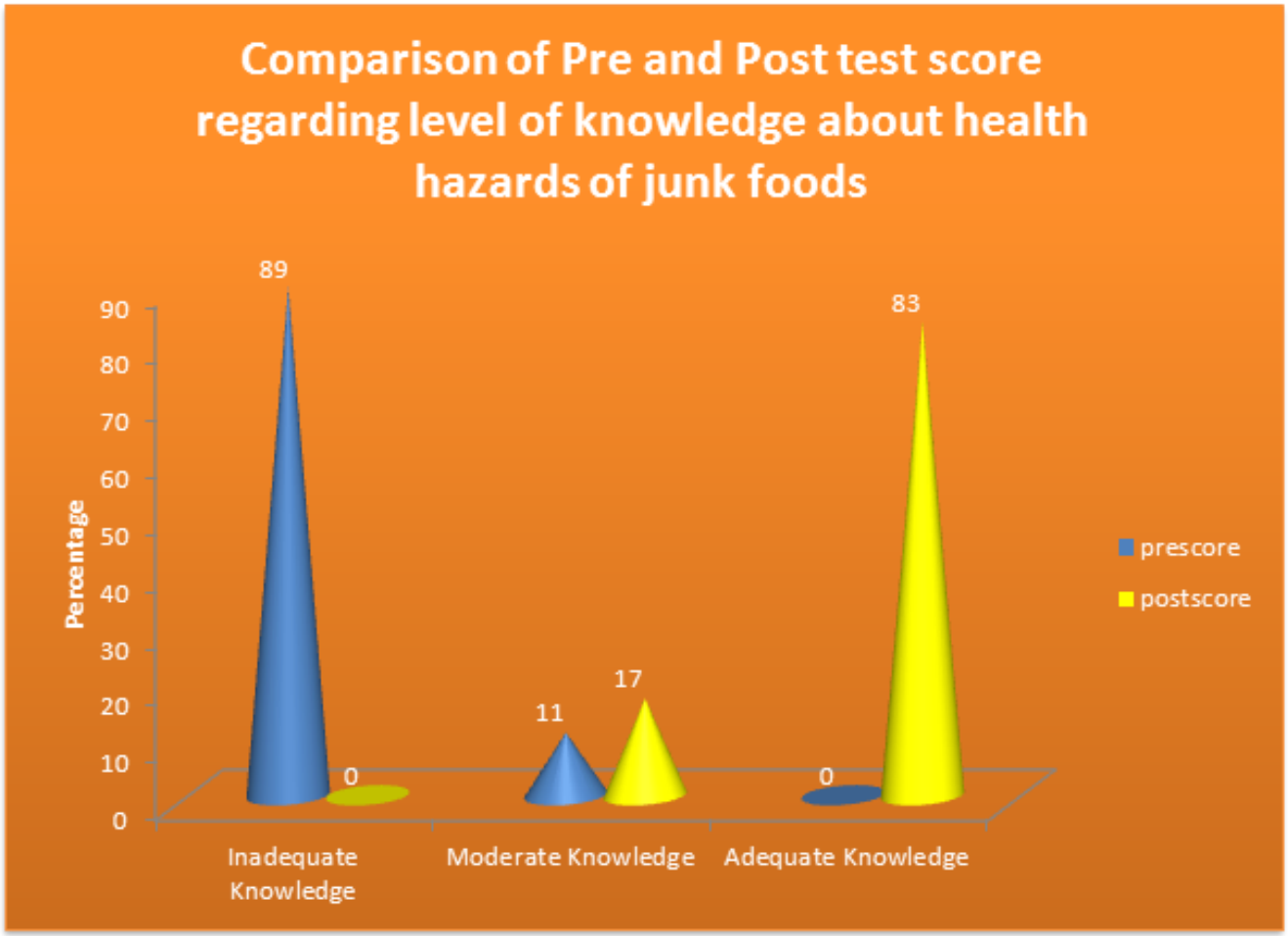

Fig-17: Frequency and percentage Distribution of Level of Knowledge among School Children Regarding Health Hazards of Junk Foods on Pre Test and Post Test

SECTION-C

Table 4.3 Comparison between Mean and Standard Deviation of Pretest and Post Test level of Knowledge on Planned Instructional Module.

N=100

Level of knowledge	Mean	n	Standard Deviation	Error Mean
Pretest	9.3500	100	2.69071	.26907
Posttest	20.6700	100	1.31852	.13185

Table 4.3 shows that the overall mean of knowledge regarding health hazards of junk foods among the schoolchildren was 9.35 mean and 2.6 of standard deviation in pretest .The overall mean of knowledge regarding health hazards of junk foods in post test is 20.67 and standard deviation is 1.31.

SECTION D

Table 4.4 Comparison between Mean and Standard Deviation of Pre and Post Test on Level of Knowledge and Effectiveness of Planned Instructional Module on Health Hazards of Junk Foods

N=100

Level of knowledge	Paired Differences					t
	Mean	Standard Deviation	Standard Error Mean	95% Confidence Interval of the Difference		
				Lower	Upper	
Pretest - Posttest	11.32	3.21	.32	10.68	11.96	35.24*

* Significant at P<0.05

Table 4.4 reveals that the comparison between mean and standard deviation of pre and post test level of knowledge and effectiveness of planned instructional module on health hazards of junk foods among 100 school children. The mean value is 11.32 and the standard deviation is 3.21 and the paired t-test value is 35.24 and the confidence level of interval ranges from 10.68 to 11.96 which was statistically significant at p<0.05. This shows that the planned instructional module was effective and showed improvement in the knowledge level of school children about health hazards of junk foods.

SECTION-E

Table 4.5 Analysing the Association between Demographic Variables and Post Test Level of Knowledge on Health Hazards of Junk Foods among School Children. ***N=1OO***

Sl No	Demographic variables		Post Test						Chi Square value χ^2	p value
			Inadequate Knowledge		Moderate Knowledge		Adequate Knowledge			
			n	%	n	%	n	%		
1	Age	8-9 Years	0	0.00%	1	1.00%	24	24.00%	4.97	0.174 NS
		9-10 Years	0	0.00%	5	5.00%	20	20.00%		
		10-11 Years	0	0.00%	4	4.00%	20	20.00%		
		11-12 Years	0	0.00%	7	7.00%	19	19.00%		
2	Sex	male	0	0.00%	9	9.00%	34	34.00%	0.826	0.363 NS
		female	0	0.00%	8	8.00%	49	49.00%		
3	Residential area	urban	0	0.00%	9	9.00%	46	46.00%	0.035	0.851 NS
		Rural	0	0.00%	8	8.00%	37	37.00%		
4	Father Education	illiterate	0	0.00%	0	0.00%	0	0.00%	11.337*	0.01
		Primary	0	0.00%	0	0.00%	2	2.00%		
		High school	0	0.00%	8	8.00%	11	11.00%		
		HSC	0	0.00%	4	4.00%	20	20.00%		
		Graduate and Above	0	0.00%	5	5.00%	50	50.00%		
5	Mother Education	illiterate	0	0.00%	0	0.00%	0	0.00%	5.563	0.135 NS
		Primary	0	0.00%	0	0.00%	4	4.00%		
		High school	0	0.00%	8	8.00%	18	18.00%		
		HSC	0	0.00%	3	3.00%	28	28.00%		
		Graduate and Above	0	0.00%	6	6.00%	33	33.00%		

Sl No	Demographic variables		Post Test						Chi Square value χ^2	p value
			Inadequate Knowledge		Moderate Knowledge		Adequate Knowledge			
			n	%	n	%	n	%		
6	Occupation Of Father	Salaried	0	0.00%	10	10.00%	45	45.00%	0.127	0.938 NS
		Business	0	0.00%	6	6.00%	33	33.00%		
		Cooley	0	0.00%	1	1.00%	5	5.00%		
7	Occupation Of mother	Salaried	0	0.00%	13	13.00%	59	59.00%	0.878	0.645 NS
		Business	0	0.00%	0	0.00%	4	4.00%		
		Homemaker	0	0.00%	4	4.00%	20	20.00%		
		Cooley	0	0.00%	0	0.00%	0	0.00%		
8	Family Income Per month	< Rs5000	0	0.00%	0	0.00%	1	1.00%	0.476	0.924 NS
		Rs 5001-Rs10000	0	0.00%	1	1.00%	7	7.00%		
		Rs10001-Rs 15000	0	0.00%	5	5.00%	27	27.00%		
		Above Rs 15000	0	0.00%	11	11.00%	48	48.00%		
9	Type of Family	Nuclear Family	0	0.00%	11	11.00%	52	52.00%	0.026	0.873 NS
		Joint Family	0	0.00%	6	6.00%	31	31.00%		
10	No of Sibilings	one	0	0.00%	2	2.00%	10	10.00%	0.026	0.873 NS
		two	0	0.00%	11	11.00%	47	47.00%		
		three	0	0.00%	3	3.00%	15	15.00%		
		more than three	0	0.00%	1	1.00%	11	11.00%		
11	Pocket Money Per month	no pocket money	0	0.00%	0	0.00%	7	7.00%	1.745	0.627 NS
		below Rs50	0	0.00%	8	8.00%	36	36.00%		
		Rs 50-100	0	0.00%	4	4.00%	21	21.00%		
		Above Rs100	0	0.00%	5	5.00%	19	19.00%		

Sl No	Demographic variables		Post Test						Chi Square value χ^2	p value
			Inadequate Knowledge		Moderate Knowledge		Adequate Knowledge			
			n	%	n	%	n	%		
12	Frequency Of eating junkfood	nil	0	0.00%	1	1.00%	8	8.00%	3.272	0.195 NS
		1-3 Times	0	0.00%	16	16.00%	63	63.00%		
		More than 3 times	0	0.00%	0	0.00%	12	11.00%		
13	Reason to eat junk food	Feel hungry	0	0.00%	5	5.00%	24	24.00%	1.924	0.588 NS
		time pass	0	0.00%	5	5.00%	36	36.00%		
		School interval	0	0.00%	7	7.00%	22	22.00%		
		Peer pressure	0	0.00%	0	0.00%	1	1.00%		
14	Place of Eating junk food	Shops	0	0.00%	7	7.00%	48	48.00%	1.581	0.209 NS
		school canteen	0	0.00%	0	0.00%	0	0.00%		
		home	0	0.00%	10	10.00%	35	35.00%		
15	Previous Information	yes	0	0.00%	16	16.00%	77	77.00%	0.039	0.843 NS
		no	0	0.00%	1	1.00%	6	6.00%		
16	Source of Information regarding Hazards of junkfood	Mass Media	0	0.00%	1	1.00%	9	9.00%	3.749	0.29 NS
		Friends/ Relatives	0	0.00%	4	4.00%	26	26.00%		
		Health personnel	0	0.00%	2	2.00%	2	2.00%		
		family member	0	0.00%	10	10.00%	46	46.00%		

*significant at P<0.05

Table 4.5 reveals that there was no significant association between the selected demographic variables and the post test knowledge on health hazards of junk foods among school children at $p>0.05$ level. Except fathers education, which shows that there is significant association between fathers education and level of knowledge at $p<0.05$.

CHAPTER-V
RESULTS AND DISCUSSION

The aim of the study was to assess the effectiveness of planned instructional module on health hazards of junk foods among school children. Total of 100 school children were selected for the study. Pretest was conducted using questionnaire method. The duration of the pretest ranged from 20 to 30 minutes for each student.

After pretest planned instructional module was conducted about the health hazards of junk foods using power point presentation, poster and pamphlets. After seven days, post test was conducted by using the same questionnaire used for the pretest.

From this study it was proved that the planned instructional module to the students brought excellent changes in the level of knowledge regarding health hazards of junk foods.

The first objective was to assess the level of knowledge regarding health hazards of junk foods among school children before planned instructional module(pretest)

The assessment of the knowledge regarding health hazards of junk foods was carried out in Freedom Concept Higher Secondary School, Poigai.The children who were selected had been assessed with demographic variables and questionnaire method.

The result showed that in pretest, among 100 school children 89(89%) had inadequate knowledge, 11(11%) had moderate knowledge and none of them had adequate knowledge.

The overall mean of knowledge regarding health hazards of junkfoods in the pre-test was 9.3 and the standard deviation was 2.6. This reveals that the children need educational program and awareness

about health hazards of junkfoods and need to improve their knowledge on healthy eating habits.

Zhonghua and Liu Xing Bing. (2008) conducted a Study on factors related to top 10 junk food consumption between 8 to 16 years of age, in Haitian District of Beijing .Ten types of junk food consumption (assessed by World Health Organization) among children and adolescent as well as the contributing factors so as to provide evidence for developing preventive and control measures and interventions. A questionnaire survey was conducted to investigate the consumption of ten types of junk food practices in 1019 children and adolescent aged between 8-16years.

One month prior to the study, 97.50% of the children and adolescent had eaten at least one type of junk food and 15.88% of them had eaten all types of them. Rates on having eaten deep fried food, pickled food, processed meat products, biscuits, coke orfizzy drinks, convenience fast food, canned food, dried or preserved fruit, cold and sweet food, barbecue food appeared to be 70.43%respectively. The rate on eaten more than once in a dayof these ten types were 37.91respectively. The rates for "do not like" and "dislike" these ten types junk food were only 10.96%. Most of the children and adolescent ate junk food mainly during breakfast at home.The survey showed that children and adolescence did not have correct idea of healthy eating habits.

They received the information of junk food mainly from sources as advertisement on TV (67.95%), mother (9.02%), newspaper or magazines (6.71%). Many factors, such as individual factors including physiological and psychological situations, social factors, family factors andthe characteristics of food contributed to the junk food practices of children and adolescent. Education strategies on nutrition should be

developed and launched in order to help children to develop their own healthy eating habits.

The second objective was to assess the level of knowledge onhealth hazards of junk foods after planned instructional module (post test)

With regard to post test score,the result shows that 83(83%) of children had adequate knowledge,17(17%) of them had moderate knowledge and none of them had inadequate knowledge.

The overall mean of knowledge regarding health hazards of junk foods among the schoolchildren was 9.35 mean and 2.6 of standard deviation in pretest .The overall mean of knowledge regarding health hazards of junk foods in post test is 20.67 and standard deviation is 1.31.

The third objective was to determine the effectiveness of planned instructional module among school children.

It reveals that the comparison between mean and standard deviation of pre and post test level of knowledge and effectiveness of planned instructional module on health hazards of junk foods. The mean value is 11.32 and the standard deviation is 3.21 and the t-test value is 35.24 and the confidence level of interval ranges from 10.68 to 11.96 which was statistically significant. This shows that the planned instructional module was effective and showed improvement in the knowledge level of school children about health hazards of junk foods.

University of Otago (2014) conducted a study to create awareness and to call for ban on junk food advertisement among the children.

Junk food advertising to children is urgently needed to help fight increasing rates of childhood obesity, say University of Otago .Free toys, gifts, discounts and competitions, promotional characters and celebrities, and appeals to taste and fun, are just some of the techniques

used by marketers to promote junk food to kids, according to a recent systematic literature review.

Such marketing has been proven to increase children's requests for the advertised foods, their food preferences and ultimately their diets. For example, free toys, discounts and competitions promote brand loyalty and repeat purchases.

University of Otego Wellington colleagues called for an outright ban on junk food advertising to children under 16 years of age to prevent childhood obesity and aimed to improve their knowledge regarding healthy nutritious foods.

The fourth objective was to associate between the selected demographic variables and the level of knowledge about health hazards of junk foods among school children.

The association between selected demographic variables and post test knowledge score on health hazards of junk foods showed that statistically there was no significant association between the demographic variables and post test knowledge on health hazards of junkfoods at $p>0.05$. Except fathers education, which shows that there is significant association between father education and level of knowledge at $p<0.05$.

Shona Botes (2011) stated that Researchers in Britain have discovered that feeding children with junk or processed foods can actually lower their IQ. The diets and general health and well-being of 14000 children born from 1991 to 1992 in western England were monitored at ages three, four and a half, seven and again at age 8. It was found that a poor diet during the early developmental years could in fact lead to a lower IQ by the age of 8.Those consuming the diet of processed foods scored an average of 101 IQ points whereas those consuming the healthier diet scored an average of 106 IQ points. IQ

point scoring fell by 1.67 for each increase on the chart that reflected the amount of processed fat they consumed.

A healthy and balanced diet seems to be just as important to raising the childs intellectual levels as it is to keep them healthy in other areas as well. It is therefore important to ensure that children should consume wide variety of fresh, whole foods and to avoid junk foods especially during the developmental years, as it does affect them later in life.The consumption of junkfoods and processed foodsshouldbe avoided during the early years. A lower IQ makes them less able to cope with school activities ,peer pressure and impair their growth and development.

Hence, the planned instructional module played a vital role in improving the knowledge among school children about the health hazards of junk foods. This will help the children to cultivate healthy eating habits and to avoid junkfoods to enhance their physical and mental wellbeing.

CHAPTER –VI
SUMMARY, CONCLUSION, IMPLICATION AND RECOMMENDATIONS

SUMMARY OF THE STUDY

The focus of the study was to assess the effectiveness of planned instructional module on health hazards of junk foods among school children.Preexperimental research design was used for this study .100 school children who met the inclusion criteria were selected from Freedom Concept Higher Secondary School at Poigai in ellore.

The investigator introduced her to the children and developed a good rapport and made them to accept and cooperate for the study. After collecting the demographic data from the school children, pretest was done with the prepared questionnaire.

After the pre test, interventions was given by using planned instructional module related to the health hazards of junk foods with the help of power point presentation, poster and pamphlets.

After seven days post test was conducted to evaluate the effectiveness of planned instructional module by using the same tools were used for pretest .Based on the collected data the effectiveness was found by comparing the pretest and post test score. The data collected was analyzed by Descriptive Statistics and Inferential Statistics.

OBJECTIVES OF THE STUDY

- To assess the level of knowledge on health hazards of junk foods among school children before the planned instructional module [pretest].

- To assess the level of knowledge on health hazards of junk foods among school children after planned instructional module [post test].

- To determine the effectiveness of planned instructional module among school children.

- To find the association between selected demographic variables on the level of knowledge among school children

HYPOTHESIS

Null hypothesis

- There will be no significant difference between the pretest and post test level on knowledge on health hazards of junkfoods among school children.

- There will be no significant association between the demographic variable and their level of knowledge on planned instructional module regarding health hazards of junk foods

The study was attempted to examine the hypothesis which is tested at 0.05 level of significance.

The conceptual frame work was based on Daniel .L.Stuffle beams modified cipp model (2011).

MAJOR FINDINGS OF THE STUDY

Demographic variables showed that 55(57%) of majority of children participated in the study were female. Most of the school children are from urban area, 55 (55%). More than half 55(55%) of school chidrens Parents were graduates and 55% of school children's father were salaried and majority of 72(72%) of mothers were salaried.

On the whole, nearly 59(59%) had family income of above Rs.15000 per month. More than 63(63%) of children were living in nuclear family,half of the children 58(58%)had more than two siblings.Nearly 44(44%) of children were getting pocket money below Rs.50/- per month.

Majority of 79(79%)of children were consuming junk foods for about 1-3 times per day and 41(41%) were eating only for time pass.

More than half of the children55(55%)were consuming Junk foods from shops when compared to that of home and school canteen. Majority of 93(93%) of children had previous information about junkfood .On the whole 56% were getting information about health hazards of Junk Food through their family members and least of 4(4%) were received information through health personnel.

Chi squaretest was used to find out the association between selected demographic variables and post test level of knowledge.The results shows that there was no significant association between the selected demographic variables and the post test knowledge on health hazards of junk foods among school children at $p>0.05$. Except fathers education, which shows that there is significant association between fathers education and level of knowledge at $p<0.05$.

Before planned instructional module, out of 100 school children, 89(89%) had in adequate knowledge, 11(11%) had moderate knowledge and none of them had adequate knowledge. But after the planned instructional module regarding knowledge about health hazards of junk foods, none of them had inadequate knowledge, 17(17%) of children had moderate knowledge and 83(83%) of them had adequate knowledge. The t value when compared to pretest and post test is 35.24, which is highly significant when $p<0.05$.So,it has been concluded that planned

instructional module regarding knowledge about health hazards of junk foods was effective among school children .

CONCLUSION

The findings of the study revealed that before the planned instructional module the school children had inadequate knowledge and lack of awareness about health hazards of junkfoods. But after the intervention of planned instructional module ,there was improvement in their level of knowledge about the hazards of junk foods. Today's children are Tommorrow's future.Nutrition during the formative period has a meaningful longterm effect ,providing building blocks to construct the growing brain. So, it is necessary for the Educators, Health Personnel and the Government to create awareness about healthy eating habits among the school children in order to improve their physical and mental wellbeing .

NURSING IMPLICATIONS

The findings of the study have implications in the following areas

1) Nursing education

2) Nursing practice

3) Nursing administration

4) Nursing Research

NURSING EDUCATION

- Nurse educators when planning and instructing nursing students, should create the awareness of children's eating pattern and to prevent the untoward effectof illeffects and this should be the part of curriculum under the subject of nutrition. The curriculum should include the importance of health education.

- In service education program like short term courses can be conducted to prepare the nurses to gain current knowledge regarding health hazards of junk foods.

- Nurse educators should teach the student nurses to create the awareness of health hazards of junk foods for both parents and the children in the community area.

NURSING PRACTICE

- Pediatrics nurses play an important role in educating children regarding health hazards of junk foods either in community and in the hospital.

- School health nurse should conduct training program me for school teachers and parents to promote the nutritional status of the children .School health program regarding health hazards of junk foods should be emphasized on students through pamphlets, pictorial presentation and handouts.

- As per government order, the schools should take necessary action against vending machines near school and also not to provide junk food shops inside the school.

NURSING ADMINISTRATION

- Nursing administrator should implement outreach program to make the public aware about the influence of mass media about the eating patterns of children and to assign nurses to conduct school health programmes.

- Inservice education can be conducted for nurses regarding importance of healthy eating habits among school children.The canteens attached to the schools should be free of junk food items .

- The nurse administrator should take active part in developing protocols, standing orders in providing health education to the children.

NURSING RESEARCH

- In nursing there is a scarce literature and research done on knowledge of school children regarding health hazards of junk foods. Research should be conducted to assess the nutritional needs and changing food consumption pattern of school children.

- School health nurse should take initiative to conduct research on opinion of teachers regarding nutritional status of school children.

- Research on innovative methods of creating awareness, preparation of teaching material associated with health hazards in children will create awareness among the public regarding its effects.

RECOMMENDATIONS FOR THE FUTURE STUDY

Based on the research findings the following recommendations were made:

- The similar study can be conducted on a larger sample.
- Comparative study can be done between rural and urban settings.
- A study can be conducted to find out the knowledge and attitude of parents and teachers towards junk foods.
- A true experimental study can be done to assess the knowledge regarding health hazards of junkfoods.
- The effectiveness can be assessed by various methods of teaching like interactive video and audio programmed instruction about health hazards of junk foods in implementing the knowledge and attitude among school children.

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Annexure-I

ARUN COLLEGE OF NURSING

(A unit of Arun Educational Trust)
Affiliated with The Tamilnadu Dr. M.G.R. Medical University,
Tamilnadu Nursing Council & Indian Nursing Council, G.O.M.S. 369/16.11.2008.
No.15, Thiyagarajapuram, Vellore - 1.

Mr. **L.Adhimoolam**
Managing Director

Principal

Ref. No.

Date : .....

From,

C. Shirely,

M.Sc (N) II year,

Arun College of Nursing,

Vellore-1.

To,

The principal,

Freedom Concept Higher Secondary School,

Poigai.

Respected sir/madam,

Subject: Request for permission to conduct research in your esteemed institution.

Iam a post graduate student of Arun College of nursing. I have selected the below mentioned topic for research to be submitted to the Tamilnadu M.G.R medical university, Chennai as a partial fulfillment of Nursing degree.

Efectiveness of Planned Instructional Module regarding Knowledge about Health Hazards of Junk Foods among School Children.

With regards I kindly request you to grant me permission to carry on my research study in your reputed institution. I assure my study would not harm any of the students in your institution would be thankful for your great help.

Thanking you

permission intended to conduct on
PRINCIPAL
FREEDOM CONCEPT
SCHOOL

FREEDOM CONCEPT SCHOOL
G.O.M.F. No 1930211.
SATHYAMANGALAM, VELLORE

PRINCIPAL
ARUN COLLEGE OF NURSING
No 15, THIYAGARAJAPURAM
VELLORE - 632 001

Ph : 0416 - 2222081 E-mail : principalaruncollege@gmail.com

Annexure-II

REQUEST FOR CONTENT VALIDITY

LETTER REQUESTING OPINIONS AND SUGGESTIONS OF EXPERTS FOR ESTABLISHING CONTENT VALIDITY OF RESEARCH

From

Ms. Shirely.C,
M.Sc., (Nursing) II year,
Arun College of Nursing,
Vellore.

To

Through Proper Channel
Mrs J Sunita Priyadarshini,
Principal,
Arun College of Nursing.

Sub: Request for opinions and suggestions of expert for establishing content validity of respected tool.

Respected Madam,

Greetings! As a part of the Curriculum Requirement the following research title is selected for the study.

Effectiveness of Planned Instructional Module regarding Knowledge about Health Hazards of Junk Foods among School Children.

I will be highly privileged to have your valuable suggestions with regard to the establishment of content validity of Research tool. So I request you to validate my Research tool and give suggestions about the tool.

Thanking you,

Yours Sincerely,
(Ms. Shirely.C)

Place:

Date:

J. Sunita

PRINCIPAL
ARUN COLLEGE OF NURSING
No 15, THIYAGARAJAPURAM
VELLORE - 632 001

Annexure-III (a)

CERTIFICATE FOR CONTENT VALIDITY

This is to certify that the tool developed by C.Shirely, M.sc.,Nursing 2nd year student of Arun college of nursing for her study **"Effectiveness of Planned Instructional Module regarding Knowledge about Health Hazards of Junk Foods among School Children"** is validated by the undersigned and she can proceed with this tool to conduct the main study.

L. Periyanayaki

Signature of the expert

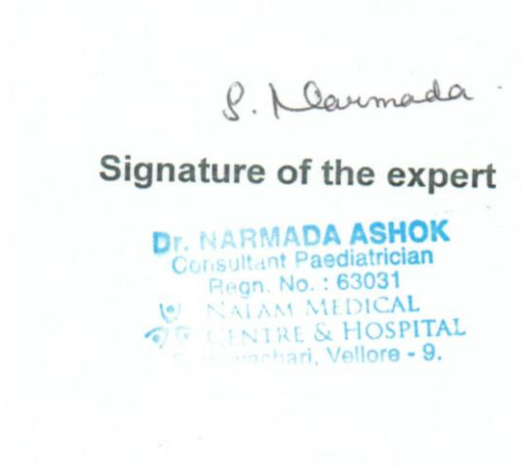
PADMASREE COLLEGE OF NURSING,
WALAJABAD - 631 605.
KANCHIPURAM DISTRICT

Ms. L. PERIYANAYAKI, M.Sc(N),
ASSOCIATE PROFESSOR,
PADMASREE COLLEGE OF NURSING,
WALAJABAD – 631 605.

Annexure-III (b)

CERTIFICATE FOR CONTENT VALIDITY

This is to certify that the tool developed by C.Shirely, M.sc., Nursing 2nd year student of Arun college of nursing for her study **"Effectiveness of Planned Instructional Module regarding Knowledge about Health Hazards of Junk Foods among School Children"** is validated by the undersigned and she can proceed with this tool to conduct the main study.



Annexure-IV

CERTIFICATE FOR TAMIL EDITING

TO WHOMSOEVER IT MAY CONCERN

This is to certify that the dissertation, **"Effectiveness of Planned Instructional Module regarding Knowledge about Health Hazards of Junk Foods among School Children"** done by **C.Shirely, M.Sc.,** 2nd Year Student, of Arun College of Nursing, Vellore District has been edited by me and the use of Tamil in this study is found appropriate.

Signature with designation

Place :
Date :

Annexure-V

PART 1

DEMOGRAPHIC PROFILE

INSTRUCTIONS TO THE STUDENTS

Dear Students

Kindly place a tick mark (✓) and write the alphabet for the most appropriate answer given in the bracket provided to the right side of each item. The information provided will be kept confidential. Do not leave any question without answering.

Name of the child:
Class studying in:
Questionnaire:

1) Age in years **( )**
   a.8-9 years
   b.9-10 years
   c.10-11 years
   d.11-12 years.

2) Sex **( )**
   a.Male
   b.Female

3) Residential area **( )**
   a.Urban
   b.Rural

4) Educational status of the father **( )**
   a.Non literate
   b.Primary school level
   C.High school level
   d.Higher secondary level
   e.Graduate /professionals

5) Educational status of the mother **( )**
   a.Non literate
   b.primary school level
   c.High school level
   d.Higher secondary level
   e.Graduate /professionals.

6) Occupation of the father ( )
a.Salaried
b.Business
c.Cooley

7) Occupation of the mother ( )
a.Salaried
b.Business
c.Homemaker
d.Cooley

8) Family income per month ( )
A.1000-5000
B.5000-10000
C.10000-15000
d.15000 & above.

9) Type of family ( )
a. Nuclear family
b.jointfamily

10) Total number of children in the family ( )
A. one
b.two
c.three
d.more than three.

11) Pocket money per month ( )
a. No pocket money
b.below Rs 50
c.Rs 50-100
d.above Rs 100

12) The frequency of eating junk food per day ( )
a. Nil
b.1-3 Times
c .More than 3 times

13) Reason to eat junk food **( )**

a. Feel hungry

b.Time passing

c.School interval

d.Peer pressure.

14) From where do you consume junk food **( )**

a. From home

b. School canteen

c .Junk food shops or fast food corner.

15) Have you obtained any previous information regarding junk food **( )**

a. yes

b.No

16) Source of previous information regarding health hazards of junk food through **( )**

a. Mass media

b.Friends and relatives

c.Health personnel

d.Family member.

Annexure-VI

PART 2

STRUCTURED QUESTIONNAIRE:

INSTRUCTIONS:

Dear students

Kindly place a tick mark (✓) and write the alphabet in the most appropriate answer given in the bracket provided to the right side of each item.

1) Junk food means **( )**
   a. Foods having low or no nutritive value
   b. Food that is costly and pleasant to taste
   c. Food that is highly nutritious.

2) Junk food contains **( )**
   a. High fibre vitamins and minerals
   b.High carbohydrates and proteins
   c.High level of fat ,salt and sugar

3) Which of the following is not a junk food **( )**
   a.Noodles
   b.Fruits
   c.Burger.

4) Junk foods are commonly prepared by **( )**
   a. Sunflower oil and coconut oil
   b.Palm oil and hydrogenated oil
   c.Groundnut oil and olive oil.

5) The health hazards of repeated use of same oil for frying is **( )**
   a.Fever
   b.Back pain
   c.Stomach pain.

6) Which of the following is the health effect of phosphoric acid in soft drinks. **( )**
   a. Kidney stone
   b.diabetes
   c.Heart disease

7) Sugar content in soft drinks will affect ( )
a.Brain
b.Stomach
c.Tooth enamel

8) The harmful substance present in cola drinks is ( )
a. Copper
b.Halathine
c.Lead

9) Continous soft drink consumption will cause ( )
a. Osteoporosis
b.Skin diseases
c.weakness

10) Presence of caffeine in cola drinks will lead to ( )
a.Skinrash
b.Headache
c.Indigestion.

11) What is the health effect of low calcium in soft drinks ( )
a.Skin disease
b.Muscle pain
c.Osteoporosis

12) Effect of frequent eating of chocolates ( )
a. Fever
b.Abdominal pain
c.Tooth decay.

13) Excessive use of chewing gum leads to ( )
a. Intestinal blockage
b.Vomiting
c.Fever

14) Which among the following is an ingredient of fast foods which causes cancer? ( )
a. Chilly powder
b.Ajinamoto
c.Tomato sauce

15) The hazardous material in noodles is ( )
a.wax
b.copper
c.Zinc

16) Lack of fibre source in fast foods lead to ( )
a. Tooth decay
b.Back pain
c.Constipation

17) Harmful ingredient present in deep fried items is ( )
a.Acrylamide
b.Chillypowder
c.Malathione

18) The health effect of fried crispy and salted items leads to ( )
a. Increased appetite
b.Increased blood pressure.
c.Kidney disease.

19) The body system mainly affected by burgers and French fries is ( )
a. Digestive system
b.Respiratory system
c.Skeletal system

20) The effect of consuming ice candy leads to ( )
a. Vomiting
b.Broken teeth
c.Headache

21) Which of the following is food additives ( )
a. Aspartame
b.sucrose
c.Saccharine

22) Frequent consumption of junk foods leads to ( )
a. Addiction
b.Giddiness
c.vomiting

23) The most common health hazard of junk food on physical health ( )
a.Head ache
b.Increased body weight
c.skin rash

24) The psychological effect of junk foods in children is ( )
a. Learning difficulty
b.Sleep disturbances
c.Giddiness

25) The effect of unhealthy environment and the harmful ingredients in preparing fast foods lead to ( )
a. Muscle pain
b.Fever
C.Indigestion and diarrhea

Annexure-VII

SCORING KEY

SCORE INTERPRETATION

The instrument consists of 25 questions regarding `health hazards of junkfoods.The maximum score is 25 and the minimum score is zero.Based on the scoring percentage the knowledge is calculated using the formula:

$$\text{Score interpretation} = \frac{\text{Obtained score}}{\text{Total score}} \times 100$$

Score	Grade
0- 50%	Inadequate knowledge
51 % – 75%	Moderate knowledge
76 %-100%	Adequate knowledge.

Key answers

1.(a)	9.(a)	17. (a)	25. (c)
2.(c)	10.(b)	18. (b)	
3.(b)	11.(c)	19. (a)	
4.(b)	12.(b)	20. (b)	
5.(c)	13.(a)	21. (c)	
6.(a)	14.(b)	22. (a)	
7.(c)	15.(a)	23. (b)	
8.(b)	16.(c)	24. (a)	

Annexure-VIII

Lesson Plan on

HEALTH HAZARDS OF JUNK FOODS AMONG SCHOOL CHILDREN

Mrs.C.SHIRELY
M.Sc (N) II Year

PLANNED TEACHING MODULE ON HEALTH HAZARDS OF JUNK FOODS

COURSE	:	M. Sc Nursing II Year
Topic	:	Health Hazards of Junk Foods
Group	:	School Children
Venue	:	Freedom Concept Higher Secondary School, Poigai
Duration	:	45 Minutes
Student Teacher	:	C.Shirely
Method of Teaching	:	Lecture cum Discussion
A.V Ads	:	Power point presentation, Poster and Pamphlets

CENTRAL OBJECTIVE:

School Children will gain adequate knowledge on Health Hazards of junk foods and develop positive attitude and skill in healthy eating habits.

SPECIFIC OBJECTIVES:-

- Define the concept and meaning of Junk Food
- Enlist the types of Junk Foods
- List down the promoting factors of Junk Food
- Describe about the Harmful Ingredient and Health Hazards of Junk Food
- Explain the Psychosocial aspects of Junk Food
- Execute the facts about Healthy eating habits in Children & the need of food pyramid

TIME	SPECIFIC OBJECTIVE	CONTENT	TEACHER ACTIVITY	LEARNERS ACTIVITY	A.V.AIDS
3 Min	Introducing the Topic to the Students	**HEALTH HAZARDS OF JUNK FOODS :-** **Self Introduction :** Very good morning to all, I am C.SHIRELY M.Sc., Nursing II Year Student of Arun College of Nursing, Vellore. I welcome you all for the Planned Instructional Module on Health Hazards of Junk Foods. **INTRODUCTION :-** The ages between 6-12 years are the time of steady growth and development. Good nutrition is the high priorities during the age group school days are full of educational challenges that require long attention span and stamina. Changes in our society have intensified the need for food & to the extent that they need basic education for good health and survival poor nutritional habits like junk foods can slow down the growth	Explaining	Listening	

TIME	SPECIFIC OBJECTIVE	CONTENT	TEACHER ACTIVITY	LEARNERS ACTIVITY	A.V.AIDS
4 Min	Define the concept and meaning of junk food	and development of the child and can undermine the pre requisites of learning as well as the strength of the child , so it is necessary that the children should have adequate knowledge about health hazards of poor eating habits like junk foods and to live their life without any physical and mental ailments. **CONCEPT OF JUNK FOOD:-** It is believed that the term junk food was created by Michael Jacobson, the director of the center for science in the public interest in the year 1972. He said that junk food is a derisive slang term for food that is of little nutritional value and often high in fat sugar, salt and calories. **MEANING OF JUNK FOOD :-** Junk food is an informal term for food that is of no nutritional value and often high in fat , sugar and calories. Junk foods are high in saturated fats, sugar components and also excuse of salt and	Explaining	Listening	PowerPoint presentation

TIME	SPECIFIC OBJECTIVE	CONTENT	TEACHER ACTIVITY	LEARNERS ACTIVITY	A.V.AIDS
3 min	Enlist the types of junk foods	lack of fiber. The only reason of their gaining popularity and increased trend of consumption is that they are ready to eat and easy to cook. Junk Food is given a very attractive appearance by adding food additives and colors to enhance flavor , texture and to increase their shelf life. Common Types of Junk Foods used by children The common types of junk foods are:- Soft Sweetened drinks and cola beverages Carbonated beverages Salted snacks Chewing Gum Chocolate Fried Fast Foods like Pizza, Burger, Pani Puri, Samosa etc.,	Explaining	Listening	

TIME	SPECIFIC OBJECTIVE	CONTENT	TEACHER ACTIVITY	LEARNERS ACTIVITY	A.V.AIDS
5 Min	List down the Promoting factors of eating junk food	Fried Crispy items like French fries, potato chips and all kinds of Salted chips Noodles Ice candy and Ice Creams wafers Promoting Factors of eating junk foods among school children a. Skipping Breakfast and meals b. Lack of time c. Poor appetite in the morning d. High intake of junk foods Medias e. Television advertisements f. Internet	Explaining	Listening	

TIME	SPECIFIC OBJECTIVE	CONTENT	TEACHER ACTIVITY	LEARNERS ACTIVITY	A.V.AIDS
15 Min	Describe the Harmful Ingredients and its Health Hazards of Junk Foods	g. Children's Magazine h. Peer Pressure i. Vending Machines near school j. Availability of pocket money to buy junk foods **Harmful Ingredients in junk foods and its health hazards:** **Soft Drinks** Soft drinks are defined as carbonated or sweetened drinks that are non-alcoholic. They are also called as soda or soda pop. **Harmful Ingredients in Soft Drinks** a. Soda Pop – A sodium Salt of Carbonic acid used in soft drinks b. Caffeine: It is a stimulant found in coffee and tea. It is used to increase the flavor in soft drinks c. Aspartame: Used in diet sodas, is a potent neurotoxin and	Explaining	Listening	

TIME	SPECIFIC OBJECTIVE	CONTENT	TEACHER ACTIVITY	LEARNERS ACTIVITY	A.V.AIDS
		endocrine disrupter. d. Citric Acid : Contains traces of MSG, it is a neurotoxin e. Phosphoric Acid : It is used to acidify the drink f. Artificial Sweeteners and Flavors: Soft Drinks are sweetened by saccharine is an artificial sweetener. It is 400 times sweeter than sugar. g. Preservatives : Preservatives like sodium and artificial colors are used for long shell life of drinks Health Hazards of Harmful Ingredient a. Sweeteners : Sweetened drinks leads to increase in calories intake and this contribute to obesity in children and also soda pop present in soft drinks adds unnecessary non-nutritious calories to the diet, when is lead leads to obesity in children and increase in body mass in index (BMI) each soft drink increase BMI -24 kg/m^{2}.			

TIME	SPECIFIC OBJECTIVE	CONTENT	TEACHER ACTIVITY	LEARNERS ACTIVITY	A.V.AIDS
		b. Phosphoric acid: Phosphoric acid contained in soft drinks (Colas) displaces calcium from the bones, lowering bone density of the skeleton and leading to weakened bones or osteoporosis. It is also responsible for tooth rot (loss of enamel on the teeth, resulting in yellow teeth) frequent consumption leads to very rapid depletion of the enamel coating on the teeth. Cola beverages with phosphoric acid lead to kidney stones. c. Aspartame: It is a sugar substitute in coke which causes career. d. Caffeine: Presence of caffeine leads to nervousness, Headache, irritability, lack of concentration and sleeplessness. It also leads to GI disturbance with reverse gastric erosion of stomach lining , because of this the child well suffer from severe stomach ache. e. Artificial Sweeteners			

TIME	SPECIFIC OBJECTIVE	CONTENT	TEACHER ACTIVITY	LEARNERS ACTIVITY	A.V.AIDS
		The have side effects like frequent migraine head ache, memory loss and depression. f. Kidney stones Cola beverages within phosphoric acid can cause kidney stones. It is proved that consumption of soft drinks was associated with a 23% higher risk of developing kidney stones in children g. Pesticides Studies proved that certain Pesticides like lindane, DDT and Malathion are present in coke and Pepsi Soft Drinks. This Prompted many State Governments to ban the sale of soft drinks in schools (August 2006) as per CSE report. There are the shocking findings in the year between (2003 to 2010) This leads to reduced immunity and reproductive disorders in children.			

TIME	SPECIFIC OBJECTIVE	CONTENT	TEACHER ACTIVITY	LEARNERS ACTIVITY	A.V.AIDS
		SALTED SNACKS A Light informal meal is known as snack. Most of the snacks like chips of difficult brands and some kind of biscuits eaten by children has high salt content. Excessive salt is not good for the body sodium along with potassium maintains the water balance in the body. But too much of sodium cause high blood pressure (Hypertension, increasing risk of the early onset of heart disease and stroke in children). **CHEWING GUM** The ingredient of chewing gum has high sugar content (Saccharine) and it has strong bonding nature due to the presence of polymeric hydrocarbons. It bonds strongly where ever it gets struck. Frequent chewing of chewing gum leads to tooth decay in children & cavities sometimes leads to intestinal blockage in children.			

TIME	SPECIFIC OBJECTIVE	CONTENT	TEACHER ACTIVITY	LEARNERS ACTIVITY	A.V.AIDS
		There are several cases that children swallowed chewing gum & it leads to constipation and intestinal blockage. It also imbalance digestive process and cause bruxirm (teeth grinding). Excessive use can cause mouth ulcers (Unbranded gums). **CHOCOLATES** Ingredients in chocolates are cocoa powder, caffeine, sugar, Tyramine, (Found in processed chocolates) oxalic acid and other potential ingredients. Many of the studies proved that dark chocolates enhance the health and low the risk of heart attack. But too much of intake should be monitored in children. **Health Hazards** **a. High Calories** Excessive consumption of chocolate may promote weight gain and obesity which are risk factors of many diseases, including			

TIME	SPECIFIC OBJECTIVE	CONTENT	TEACHER ACTIVITY	LEARNERS ACTIVITY	A.V.AIDS
		cardiovascular diseases in children. **b. Acne** There is a popular belief that the consumption of chocolate can cause acne, certain foods like sugar, corn syrup and other simple carbohydrate can cause Acne in older children. **c. Addiction / Craving** Chocolate may be addictive, children who crave for chocolates or obsessively consume are called chocoholics. **d. Cavities** The refined sugar in chocolate plays a harmful role in tooth decay by aggrivating growth of bacteria in the mouth. This Leads to dental carries in children. **e. Caffeine** Chocolates contain more caffeine which can act as a			

TIME	SPECIFIC OBJECTIVE	CONTENT	TEACHER ACTIVITY	LEARNERS ACTIVITY	A.V.AIDS
		stimulant and cause the child to feel fitter, have troubled sleeping and experience rapid heart rate. **FRIED FAST FOOD** Food which is prepared quickly and served is called as a fast food. It includes Noodles, Pizza, Burger, French fries, Samos a, Panipuri, etc., **Ingredients** a. Ajinomoto: It is monosodium glutamate (Chemical) used to enhance the taste of the food. b. Oil: Most of the fast foods are prepared by palm oil or hydrogenated oil. It contains high amounts of transfect. c. High sodium level: All the fast foods contain high sodium beyond certain 1000mg of sodium and this can promote water retention & leads to high blood pressure in children. d. Increased calories and fat: Pizza and Burgers have			

TIME	SPECIFIC OBJECTIVE	CONTENT	TEACHER ACTIVITY	LEARNERS ACTIVITY	A.V.AIDS
		unnecessary calories and fat and have to nutritional value, they lack of vitamins, minerals and fiber. e. Acrylamide: Acrylamide is a carcinogen or neurotoxin, is formed in foods during high temperature processes such as frying, baking, roasting ad extension. f. Chemical Preservatives: Salt & Sugar: To increase the shelf life and flavor proceed foods tends to have Trans fats hydrogenated fats). Food industry Creates Trans fats so that regular products that are naturally greasy and oily & to appear fresh. **HEALTH HAZARDS** a. Ajinamoto: It is an ingredient of fast food which causes cancer. b. Excessive use of fat, carbohydrate: This leads to increase in weight gain and results in childhood obesity in children.			

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		c. Oil: Repeated use of same oil for fancying leads to increase of carcinogens in the body & cause cancer. d. Ulcerative Colitis : continuous intake of burgers will cause ulcerative colitis in children e. Acryl amide It is a carcinogen and neurotoxin present in fast foods. f. Transfats: Transfats present in fast foods leads to cholesterol, promote heart attacks and stroke in later stages of life. g. Diabetes: High consumptions of potatoes and fresh juices is associated with increased risk of diabetes h. Gastro Intestinal Disturbances: Improper cooking of fast foods, unclean environment, eating raw and spoiled meat in fast foods leads to indigestion, food poisoning, vomiting and diarrhea in children.			

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		NOODLES: Noodles are also called as instant noodles are the popular junk foods among children. **Ingredients** a. High sodium content: The health risk of noodles is that they have high sodium content cup noodles contain 800 mg of sodium. b. High in Monosodium glutamate: msg adds flavor to the noodles especially this is high in cup noodles. c. Propylene glycol: Noodles have propylene glycol it has anti freeze properties which helps the noodles from drying. d. Carbohydrate: It contains lots of carbohydrate, but vitamins, minerals or fiber. e. Preservatives and plasticizers : Noodles are packed with preservatives & and the package cup contains plasticizers .			

TIME	SPECIFIC OBJECTIVE	CONTENT	TEACHER ACTIVITY	LEARNERS ACTIVITY	A.V.AIDS
		f. Ajinamoto : The Masala used for noodles contains high amount of Ajinamoto which causes improper digestion in children. **HEALTH HAZARDS** a. Affects Nutrients Absorption Noodles reduce the body's ability to absorb other nutrients from healthy foods such as fruits and vegetables. It affects digestion process after several hours of eating. b. Kidney stones: Due to high sodium content it increase the risk for developing kidney stones and kidney problems in children. c. Allergic reactions: Due to the presence of Msg or Mono Sodium glutamate children will suffer from junk headache, burning sensation in stomach. d. Lack of Immunity: Due to anti-freeze property (Propylene glycol) thus may be risk of liver, kidney, heart problems			

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		and leads to weakened immune systems. e. Cancer: Styrofoam or polystyrene has become one of the most popular ingredients used for packing instant noodles. Who even mention that these materials can trigger cancer. f. Affects digestion: Noodles can disrupt digestive system. This leads to bloating, constipation or irregular bowel movements. g. Obesity: Instant Noodles are a major cause of obesity, frequent consumption of this cause accumulation of fat and sodium in the body which leads to water retention, Hypertension, Heart diseases and kidney damage. **FRIED CRIPSY ITEMS :** Potato chips, corn Chips, deep fried potato products like French fries, lays, deep fried chicken in KFC are different kinds of fried crispy items.			

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		Ingredients : a. Acryl amide : Acryl amide is a carcinogen substance which usually formed when high temperatures are used for cooking chips .WHO recommends that they are 300 times more than the safe limits b. High sodium extent: To enhance the taste they have high sodium content in all deep fried items. c. Tran's fat: Transfat (Hydrogenated oil) are added to provide crispy texture and also to increase the long shelf life and freshness for longer duration. **HEALTH HAZARDS :** a. Obesity: One of the main reasons for obesity in children is the frequent consumption of junk foods. According to experts, piling up the plate with calorie may endanger life leading to multiple life style disease.			Poster

TIME	SPECIFIC OBJECTIVE	CONTENT	TEACHER ACTIVITY	LEARNERS ACTIVITY	A.V.AIDS
		b. Diabetes: Frequent consumption of food with high amount of sodium, fat and sugar leads children to the complication of developing type 2 diabetes. c. Cardiovascular diseases: The excess amount of fat intake gets clogged resulting in plaque formation is the arteries leading to severe Heart failure like myocardial infection in later days of life. d. High Blood Pressure: excessive sodium leads to elevated blood pressure. e. Cancer: Junk foods with low dietary fibre and lack of nutritive value are a main contributor towards breast and colorectal cancers. **ICE CREAMS AND ICE CANDY** Ice creams have high amount of milk products, high sugar content, artificial flavors', preservatives, thickness and artificial sweeteners.			

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		HAZARDS : a. Excessive consumption leads to cavities in children frequent exposure to chillness can cause broken or cracked teeth. b. Sweeteners: Artificial Sugar Sweeteners such as aspartame and saccharine is at a risk of bladder cancer and hyperactivity in children. c. Colouring Agents: There are about three thousand tons of synthetic coloring agents majority of them are derived from tar coal. They have tendency to cause hyper activity, respiratory problems and Asthma in children. d. Artificial Flavorings: Artificial flavorings of all the addictives the most commonly used are the artificial or natural flavoring containing innumerable chemicals causing behavioral problems and allergies reactions in children and also lead to learning difficulties in children.			

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		PSYCHOLOGICAL EFFECTS OF JUNK FOODS: a. Eating Junk foods is also one of the addictions in the childhood. b. High sugar content and food coloring cause hyperactively, lapses of concentration is children. c. Artificial coloring leads to learning difficulties and lack of concentration in studies. d. Poor eating habits diminish their strength & lead to low self esteem, interaction with family members, lack of participation is sports and games. e. Several Studies have found that dietary policies in early childhood and school days affect IQ Scores in later years of life. Nutrition during growing age helps to develop or construct growing brain. **HEALTHY EATING HABITS IN SCHOOLS AGE**			

TIME	SPECIFIC OBJECTIVE	CONTENT	TEACHER ACTIVITY	LEARNERS ACTIVITY	A.V.AIDS
		CHILDREN a. Healthy Eating habits in school age lead a platform for betterment of healthy living in the adult life and older ages. b. Children should not skip morning Breakfast and meals c. Food should contain lot of calcium, protein, vitamins, and minerals and should be nutritious. d. Diet should contain fresh fruits and vegetables in large amount. In order to stay healthy, we have to eat nutritious food every day. The food guide pyramid can help to learn about healthy eating pattern. **Food Guide Pyramid For Children** There Are Five Major Food Groups that our body need every day. They Are a. Milk: (3 – 4 Serving) Food Include Milk, Yogurt and Cheese. The key ingredient is Calcium, Which Builds			

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		strong teeth and bones. b. Fruits : (2 – 3 Servings) Fruits are excellent Source of Vitamin C Which heals cuts and keeps skin healthy & fiber, helps in digestion process. c. Vegetables: (3 – 5 Servings) Veggies are also great source of fiber and vitamin A. Dark Colored Vegetables Like carrots and broccoli, have more nutrients. d. Meat: (2 – 3 Servings): Foods include meat (chicken, beef, fish, and meat), Beans & Nuts. This Gives Essential Proteins, Which Gives Strong Muscles. e. Grains: (6 – 11 Servings): This Food Group Provides energy because it contains carbohydrate which includes, breads, Cereals, rice and & pasta. f. Others : This foods contains sugar and fat The middle of the pyramid contains foods you should eat in small			Pamphlets

TIME	SPECIFIC OBJECTIVE	CONTENT	TEACHER ACTIVITY	LEARNERS ACTIVITY	A.V.AIDS
		quantity but not too much. The top of the pyramid is the smallest part of the pyramid. It contains foods taken once in a while. Healthy food contains vitamins, minerals and fiber. So, eat healthy and stay healthy. Summary: To summarize I have discussed the concept , meaning of junk foods, Types, factors promoting harmful ingredients ,health hazards of junk foods and healthy eating habits. **CONCLUSION:** In the Garden of Eden, Fruit was given to our first parents as a part of their original diet. Sound Nutrition plays a vitalrole in prevention of several chronic diseases including obesity, coronary heart disease, diabetes, Hypertension and even cancer in children. To prevent disease healthy eating habit should be established in childhood by educating the children about balanced rich diet so that they can live a disease free life in adulthood.			

பகுதி-1

புள்ளிவிவரதோற்றவடிவம் :

மாணவர்களுக்குஅறிவுறுத்தல் :

அன்பானமாணவர்களுக்கு,

தயவுசெய்துகீழேகொடுக்கப்பட்டுள்ள கேள்விகளுக்கு பொருத்தமான விடையை தேர்வு செய்துஅதன் பின்னர் வலது புறம் கொடுக்கப்பட்டுள்ள அடைப்பான்களில் டிக் மார்க் செய்யவும். கொடுக்கப்பட்டவிவரங்கள் ரகசியமாகவைக்கப்படும் எனவேதாங்கள் ஏதாவதுகேள்விகளுக்குபதிலளிக்காமல் விட்டுவிடவேண்டாம்.

குழந்தையின் பெயர் :

பாக்கம் வகுப்பு:

கேள்விகள்:

1. வயதுவருடங்களில்

1. 8-9 வயது ( )
2. 9-10 வயது
3. 10-11 வயது
4. 11-12 வயது

2. பாலினம்

1. ஆண் ( )
2. பெண்

3. வசிக்கும் பகுதி

1. நகர்புறம் ( )
2. கிராமம்

4. தகப்பனாரின் கல்வித்தகுதி

1. படிக்காதவர் ( )
2. தொடக்கப்பள்ளிவரை
3. நடுநிலைப்பள்ளிவரை
4. மேல்நிலைப்பள்ளிவரை

5. தாயாரின் கல்வித் தகுதி

1. படிக்காதவர் ( )
2. தொடக்கப்பள்ளிவரை
3. நடுநிலைப்பள்ளிவரை
4. மேல்நிலைப்பள்ளிவரை
5. இளநிலைபட்டதாரி / தொழில் வல்லுநர்

6. தகப்பனாரின் வேலை

1. ஊதியம் பெறுபவர் ( )
2. வணிகம்/சுயதொழில்
3. கூலிவேலைசெய்பவர்

7. தாயாரின் வேலை

1. ஊதியம் பெறுபவர் ( )
2. வணிகம் / சுயதொழில்
3. வீட்டில் இருப்பவர்
4. கூலிவேலைசெய்பவர்

8. குடும்பவருமானம் ஒருமாதம்

1. 1000-5000 ( )
2. 5000-10000
3. 10000-15000
4. 15000க்குமேல்

9. குடும்பவகை

1. தனிகுடும்பம் ( )
2. கூட்டுகுடும்பம்

10. குடும்பத்தின் குழந்தைகள் எண்ணிக்கை

1. ஒன்று ( )
2. இரண்டு ( )
3. மூன்று
4. மூன்றுக்குமேல்

11. செலவிற்கானபணம் ஒருமாதம்

1. ஒன்றும் இல்லை

2. 50 ரூபாய்க்குகீழ்

3. 50-100 ரூபாய் வரை

4. 100 ரூபாய்க்குமேல்

12. ஒருநாளைக்குஎத்தனைமுறை ஐங்க் உணவுகள் உண்கிறீர்கள்

1. இல்லை ( )

2. 1-3முறை

3. 3 முறைக்குமேல்

13. ஐங்க் உணவுகள் சாப்பிடும் காரணம்

1. பசியாகஇருப்பதால் ( )

2. நேரப் போக்கிற்காக

3. பள்ளிஇடைவெளியின் போது

4. உடனிருப்பவர்களின் அழுத்தத்தால்

14. எங்கிருந்து ஐங்க் உணவு என்கிறீர்கள்

1. வீட்டிலிருந்து ( )
2. பள்ளிஉணவகத்தில்
3. ஐங்க் உணவுகடை (அ) துரிதஉணவுகடை

15. இதற்குமுன்பாகஎப்போதாவது ஐங்க் உணவைப் பற்றிதகவல் பெற்றிருகிறீர்களா

1. ஆம் ( )

2. இல்லை

16. ஐங்க் உணவு உடல்நலக் கேடுஎன்பதற்கானதகவல் ஆதாரங்கள் முன்பாககிடைத்தது.

1. மக்கள் செய்திஊடகம் ( )

2. நண்பர்கள் மற்றும் உறவினர்கள்

3. உடல்நலவல்லுநர்

4. குடும்பநபர்

பகுதி-2

வடிவமைக்கப்பட்டகேள்விகள்

விவரங்கள்

அன்பானமாணவர்களுக்கு,

தயவுசெய்து கீழேகொடுக்கப்பட்டுள்ள கேள்கிக்கு பொருத்தமான விடையை தேர்வு செய்துஅதன் பின்னர் வலதுபுறம் கொடுக்கப்பட்டுள்ளஅடைப்பான்களில் டிக் மார்க் செய்யவும்.

1. ஜங்க் உணவின் பொருள்

1. உணவுகள் குறைந்தஅல்லதுஎந்தஒருஊட்டச்சத்துஅளவு இல்லாதது ( )
2. உணவுகள் மிகவும் விலைஉயர்ந்தவைமற்றும் சாப்பிடுவதற்குசுவையாகஇருப்பது
3. மிகவும் ஊட்டச்சத்துள்ளஉணவு

2. ஜங்க் உணவு உள்ளடக்கியவை

1. அதிகநார்ச்சத்துமற்றும் கனிமங்கள் கொண்டது ( )
2. அதிககார்போஹைட்ரேட் மற்றும் புரதம் சத்துகொண்டது
3. அதிகஅளவு கொழுப்பு, உப்பு மற்றும் சர்க்கரை

3. கீழேகொடுக்கப்பட்டுள்ளஎந்தஉணவு ஜங்க் உணவு இல்லை

1. நூடுல்ஸ் ( )
2. பழங்கள்
3. பர்கர்

5. உபயோகித்தஎண்ணெய்யைமறுபடியும் உபயோகிப்பதன் மூலம் வரும் உடல்நலக் கேடு

1. காய்ச்சல் ( )
2. முதுகுவலி
3. வயிறுவலி

6. குளிர் பானங்களில் உள்ளபாஸ்பரிக் ஆசிட் அமிலத்தால் ஏற்படக்கூயெஉடல் நலக் கேடு

1. சிறுநீரககல் ( )
2. நீரழிவு நோய்
3. இருதயகோளாறு

7.குளிர் பானங்களில் உள்ளசர்க்கரையினால் வரும் விளைவு

1. மூளைபாதிப்பு ( )
2. வயிறுபாதிப்பு
3. பல் பலவீனம்

8. கோலாகுளிர்பானத்தில் கலந்துள்ளநச்சுத்தன்மைஎது

1. தாமிரம் ( )
2. ஆலாத்தின்
3. விட்

9. தொடர்ந்துகுளிர்பானம் அருந்துவதின் விளைவு

1. ஆண்டிபோரோசிஸ் ( )
2. தோல் வியாதி
3. பலவீனம்

10. கோலாகுளிர்பானத்தில் கா.ஃபின் இருப்பதின் விளைவு

1. தோல் வெடிப்பு ( )
2. தலைவலி
3. அஜீரனத்தன்மை

11. குளிர்பானத்தில் கால்சியம் குறைவாகஇருப்பதால் ஏற்படும்

1. உடல்நலக்குறைவு ( )
2. தோல்வியாதி
3. தசைவலி
4. ஆஸ்டியோபோரோசிஸ்

12. சாக்லேட் அடிக்கடிசாப்பிடுவதின் விளைவு

1. காய்ச்சல் ( )
2. அடிவயிறுவலி
3. ஆஸ்யோபோரோசிஸ்

13. அளவுக்குஅதிகமாகமெல்லும் கோந்துசாப்பிடுவதின் விளைவு

1. குடல் அமைப்பு ( )
2. வாந்தி
3. காய்ச்சல்

14. கீழேகொடுக்கப்பட்டுள்ளதுரிதஉணவின் மூலப்பொருள் புற்றுநோய் விளைவிப்பவை?

1. மிளகாய் பொடி ( )
2. அஜினாமோட்டோ
3. தக்காளிசாரு

15. நூடுல்ஸில் உள்ளகேடுவிளைவிக்கும் பொருள்

1. மெழுகு ( )
2. தாமிரம்
3. துத்தநாகம்

16. துரிதஉணவில் நார் சத்துகுறைவாகஇருப்பதன் விளைவு

1. பல்வலி ( )
2. முதுகுவலி
3. மலச்சிக்கல்

17. அதிகமாகபொரித்தஉணவில் கலந்துள்ள மூலப்பொருளால் ஏற்படும் விளைவு

1. பொரித்தல் ( )
2. மிளகாய் பொடி
3. மாலத்தியான்

18. முறுகபொரித்தமற்றும் உப்பு கலந்துஉணவினால் ஏற்படும் உடல்நலக்கேடு

1. அதிகபசிஎடுத்தல் ( )
2. அதிகஇரத்தஅழுத்தம்
3. சிறுநீரகக் கோளாறு

19. பர்கர் மற்றும் பிரஞ்ச் பிரைஸ் மூலம் உடல் பகுதிகள் பாதிக்கப்படுவது

1. அஜீரணக் கோளாறு ( )
2. சுவாசஅடைப்பு
3. எலும்புக்கூட்டின் அமைப்பு

20. அயிஸ் கண்டிசாப்பிடுவதல் ஏற்படும் விளைவு

1. வாந்தி ( )
2. பல்உடைதல்
3. தலைவலி

21. கீழேகொடுக்கப்பட்டுள்ளஎவைஉணவு சேர்க்கைகள்

1. அஸ்பார்டேம் ( )
2. சுக்ரோஸ்

22. அடிக்கடி ஐங்க் உணவு சாப்பிடுவதின் விளைவு

1. அடிமையாதல் ( )
2. மயக்கம்
3. வாந்தி

23. ஐங்க் உணவினால் ஏற்படும் பொதுவானஉடல்நலக் கேடு

1. தலைவலி ( )
2. உடல் எடைஅதிகரித்தல்
3. தோல்

24. குழந்தைகளுக்கு ஐங்க் உணவினாலஏற்படும் உளவியல் தாக்கம்

1. கற்பதில் சிரமம் ( )
2. தூக்கம் கெடுதல்
3. மயக்கம்

25. ஐங்க் உணவில் கலக்கும் மூலப்இபாருட்கள் மற்றும் சுகாதாரக் கேடான சூழ்நிலையினால் ஏற்படும் உடல்நலக் கேடு

1. தசைவலி ( )
2. காய்ச்சல்
3. அஜீரணம் மற்றும் பேதி

Annexure-IX

CODING SHEET																
	DEMOGRAPHIC VARIABLES															
QUESTION	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**
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Pre-test coding sheet

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Post test coding sheet

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100	1	1	1	1	0	0	0	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	0	1	20

INTRODUCTION

PRE-TEST

TEACHING

POST-TEST